

CHICAGO OFFICE,
40 La Salle Street.



MILWAUKEE OFFICE,
124 Grand Avenue.

Published by
E. HARRISON CAWKER. Vol. 24, No. 1. MILWAUKEE AND CHICAGO, NOV. 1887.

TERMS: \$1.00 a Year in Advance
Single Copies, 10 Cents.

MACHINERY FOR SALE CHEAP!

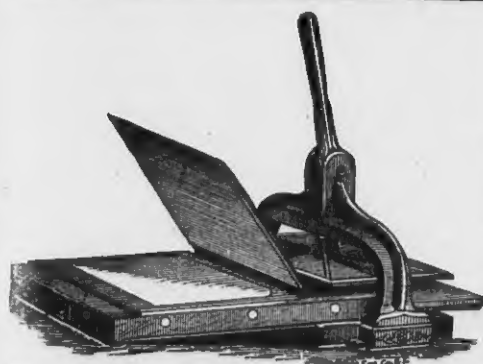
- 2 24-inch Middlings Mills, almost new.
- 1 Millstone Dresser, almost new.
- 8 Pair 48-inch Burr Millstones. New.
- 1 Pair 9 x 18 Smooth Rolls. New.
- 1000 Pieces French Burr Millstone Blocks, extra quality.

FOR PRICES ADDRESS

THE FILER & STOWELL CO., MILWAUKEE, WIS.

**J. A. McINTOSH,
Patterns and Models**

35 & 37 SOUTH CANAL ST.,
Estimates Cheerfully Furnished. CHICAGO.



**ZUCCATO'S
PAPYROGRAPH.**

BEST and most durable duplicating process in use. From one original, written with any pen, over 1,000 copies of writings, drawings, circulars, music, etc., may be printed at the rate of 500 per hour, in black or colors.

No gelatine, no roller, no dotted lines. Copies are perfect fac-similes.

Used by largest firms and corporations—Thurber, Whyland & Co., Austin, Nichols & Co., N. Y. Life Ins. Co., and many others.

Send for price list, testimonials, and specimen prints. Prices reduced.

S. C. ANDERSON, General Agent,
91 Duane Street, New York.



**SECTIONAL
INSULATED AIR
COVERINGS**

THE BEST IN THE WORLD.
Shields & Brown Co.
143 Worth St., NEW YORK. 78 and 80 Lake St. CHICAGO.
For PIPES, BOILERS, DRUMS and all other hot or cold surfaces. ASBESTOS CEMENT, PACKING, SHEATHING, &c., &c.

BUY Goodyear Rubber Co's RUBBER GOODS.
THEY ARE THE BEST MADE.
"GOLD SEAL" RUBBER BELTING,
OAK TANNED LEATHER BELTING.

372 and 374 EAST WATER STREET,
MILWAUKEE.

131 EAST THIRD STREET,
ST. PAUL.

201 NICOLLET AVENUE,
MINNEAPOLIS.

Are you alive to the importance of handling the best goods that the market affords? In this day and generation good goods are coming rapidly to the front while the inferior goods are being relegated to the rear. Note the fact that the intelligent consumers of this country are inquiring more carefully into the quality of goods offered them and are beginning to realize that they cannot afford to use cheap goods even at low prices. In this connection we urge your examination of the specialties that we make and sell, as we believe them to excel all others in strength, durability, quality and finish. We sell them at such favorable prices that it is manifestly to your interest to handle them.

Yours Truly,

THORNBURGH & GLESSNER, Chicago.

The Garden City Wheat Cleaning Process!

RESULTS IMPROVED IN ANY LONG SYSTEM MILL.
INDISPENSABLE FOR THE SHORT SYSTEM.

◀HAS STOOD THE TEST FOR YEARS, AND NEVER FAILED.▶

MILLERS

We wish to say a few words in regard to WHEAT CLEANING, and to ask you whether our views are not correct. With the exception of some few cranks, who cannot be convinced, until it tells on their bank account, NO ONE DOUBTS the existence of a certain amount of dirt in the crease of the berry. Nature put it there, and there it is, and you can call it by any name you choose. It is a self-evident fact, that unless this dirt is removed, it must be incorporated with the flour, and to incorporate it, is to lower the grade. The BEST SCOURER or even DECORTICATOR, will not do more than to clean the exterior of the grain, and hence the removal of this crease dirt, requires a different method of treatment.

WE OFFER THIS METHOD IN OUR PATENTED PROCESS.

FIRST, thoroughly clean your wheat. Get it as clean as the latest and best machinery can do it. SECOND, SPLIT THE CLEANED WHEAT, AND THEN SCOUR AND BRUSH THE HALF KERNELS. You are then in a condition to proceed with your flouring operations, and by no other method can you get as good results.

NOW GENTLEMEN, consider that this **PROCESS** has been in successful operation for the last five years, and has been thoroughly tested in hundreds of mills in this country and abroad. IT HAS NEVER FAILED TO IMPROVE THE GRADE OF FLOUR IN ANY MILL WHERE IT HAS BEEN ADOPTED. **LONG SYSTEM MILLS, SHORT SYSTEM MILLS, BURR MILLS** have all been benefited. You need this Process and cannot afford to do without it, as we can convince you.

We offer you to carry it out with **THE GARDEN CITY BREAK MACHINE AND BRUSH SCALPER**, and will guarantee the work. If you are now making a good FIRST BREAK, then the BRUSH SCALPER alone is what you want.

DO NOT HESITATE, but write for prices, etc.

Garden City Mill Furnishing Co., Chicago, Ill.

WE MANUFACTURE A FULL LINE OF WHEAT CLEANING MACHINERY THAT CANNOT BE EQUALED.

The United States Miller

Published by E. HARRISON CAWKER. } Vol. 24, No. 1. MILWAUKEE AND CHICAGO, NOV., 1887.

TERMS: { \$1.00 a Year in Advance.
Single Copies, 10 Cents.

SHORT SYSTEM AND BUHR MILLS,

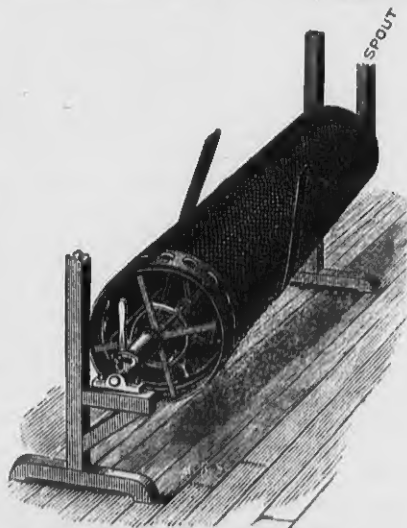
Since the introduction of short-system milling there is less occasion for serious consideration of the department of buhr milling. Short-system milling, as carried on by many millers, is not only short as to the number of breaks and as to the surface, but as to the number of separations as well, and for that reason may meet with favor from those who would otherwise mill by millstones. The great objection that has been found with gradual reduction milling by those who would mill in this way is that it is so complicated, and that about the same number of separations and reductions are necessary in the small mill as in the large one. This is true upon general principles of any kind of milling. Nevertheless, it is a fact that with the short-system a smaller number of reductions and a smaller number of separations are necessary, and it is true that quite satisfactory work can be done in this way, much more satisfactory than by buhrs, and with an outlay not so great as with a full gradual reduction mill. Thus it is that we say that the short system of milling will make further inroads into the buhr mills of the country. It is true that there is still a large number of buhr mills, a much larger number than is generally recognized, and it is also true that such mills are desirous of competing with their neighbors as fast as competition is necessary. The man who owns a buhr mill may feel entirely satisfied with it, and may feel that buhr milling is the proper thing as long as he does not have the roller mill to compete with. As soon as that becomes true, he must drop his prejudices, or drop his business. It frequently happens that he adopts the latter course. Prejudice is often stronger than reason. We say that the number of separations in short-system milling is much less than in the long system, which is true for the reason that the rapid reduction of the stock leaves a smaller number of classifications necessary. There are not so many different kinds of stock to be handled. The middlings are finer in size. There are flour and middlings and tallings and bran. There are only about two grades of flour and one grade of middlings in a small mill. That is, only such grades will be recognized. Of course there may be any number that one may choose to distinguish, however, the differences are not so apparent in this kind of milling as in buhr milling, or in the full gradual reduction mill. Short-system milling, if practiced in a very short way, is a good deal like buhr milling, only that the reduction is done on millstones. There is the same number of classifications

to be handled. Thus it is that it will meet with favor from those who still mill with buhrs.—*From The Millstone for November.*

PRINZ'S PATENT COCKLE MACHINE.

The name of Faustin Prinz is sufficiently familiar to the millers of this country, in connection with his inventions in mill machinery. We give in this column two cuts explanatory of the Prinz Patent Cockle Machine, which is now being introduced to the notice of millers. It is designed for small mills as well as for large ones, and the price has been placed at a figure which will attract the favorable attention of both classes of millers. Our illustration shows a single reel without frame, so that it can be placed anywhere in the mill, and so that any mill can find room to accommodate it.

The machine consists of a cylinder about



PRINZ'S PATENT COCKLE MACHINE.

70 inches long and 16 inches in diameter, mounted on a stationary shaft 82 inches long, which is supported at both ends, either as seen in the cut, or it can be hung up under the ceiling or in any other suitable position. Inside of the cylinder is a trough suspended on springs and agitated by the revolution of



FIG. 2. SECTION OF COCKLE CYLINDER.

the cylinder itself, to receive the cockle which is carried up by the indentations of the cylinder and properly discharged into this trough. By the agitating motion of this trough the cockle is discharged at the front end of the cylinder. The wheat enters at

the end of the reel which is rolling at the lower side of the same in the direction to the discharge, and by this rolling the cockle finds its way into the indentations and gets raised up and discharged into the trough. There is nothing complicated in the machine, consequently nothing can get out of order to make trouble and annoyance. It has only two bearings to oil, and oiling once a day is all it needs, as it runs only at a speed of eighteen revolutions.

The greatest convenience of the machine is the entire control by the operator. By a single lever seen at the front of the cut, it can be set either to take out any quantity of cockle, or if there is none in the wheat, it can be set to take out nothing at all. The indentations (see Fig. 2) are of a new design and protected by U. S. Letters Patent granted to F. Prinz. This enables the manufacturer to indent sheet-iron or steel plates. The machine is driven by simply taking a two-inch belt around the reel at any point. The above described machine has a capacity up to twenty bushels per hour.

In addition to the machine described above, the manufacturers are building machines of larger capacity with a grading reel, and also with two or more cockle reels. This grading reel is of a new type and is guaranteed not to clog up. All parts of this machine are readily accessible, not one being placed inside another, and in a substantial frame, with slow motion so that very little power is required.

These machines have already been placed in a number of mills of the manufacturers. FAUSTIN PRINZ & CO., 659 East Water street, Milwaukee, Wis., will take pleasure in giving millers any desired particular respecting them.

THE printed report of Col. W. F. Switzer, chief of the Bureau of Statistics on wool and manufactures of wool is now ready for distribution. It shows:

The number of sheep in the United States rose from 19,000,000 in 1840 to 51,000,000 in 1884, but declined to 45,000,000 in 1887. This decline occurred mainly in the Southern and Western states, notably in Texas, and is attributed in great part to the decline in the price of wool since 1884. The increase in wool in imports has about kept pace with the growth of our wool products, both having about doubled since 1880. While our product of woollens has increased since 1850 nearly seven-fold our imports have increased 62 per cent., but the consumption per capita has doubled.

SOUTHERN PROGRESS FOR ONE YEAR.

The Baltimore *Manufacturers' Record* which has taken great pains to obtain information concerning the industries and manufacturing enterprises started or put in operation in the Southern States during the year just ended, has published in its issue of June 1, 1887, detailed statistics of the industrial progress of the several Southern States. From them we summarize as follows:

	1885.	1886.
Alabama.....	\$7,841,000	\$19,848,000
Arkansas.....	1,220,000	15,240,000
Florida.....	2,019,000	1,059,000
Georgia.....	2,500,000	3,599,000
Kentucky.....	18,303,200	28,404,000
Louisiana.....	2,118,500	2,240,000
Maryland.....	6,008,800	8,705,000
Mississippi.....	761,500	774,000
North Carolina.....	3,230,000	3,076,000
South Carolina.....	856,000	1,208,000
Tennessee.....	2,092,000	21,240,000
Texas.....	3,282,000	5,094,000
Virginia.....	3,314,000	8,514,000
West Virginia.....	12,056,000	8,305,000
Total.....	\$66,812,000	\$120,226,000

It will be seen, in comparing the figures for 1887 with those for 1885, that there has been an increase of \$62,400,000 in capital and capital stock devoted to starting new enterprises and increasing those already existing.

The figures represent plant and labor for mining coal and ores, for manufacturing iron and steel, quarrying granite and marble, establishing cotton mills, cotton seed oil factories, flour mills, compresses for cotton, lumbering mills, woodworking establishments, ice factories, electric light works, tobacco factories, furniture and wagon factories, and a great variety of important and new industries. Included in the list may be enumerated as among the most important 28 iron furnaces, 50 ice factories, 68 foundries and machine shops, many of them of large size, 1 Bessemer steel rail mill, 26 miscellaneous iron works, including iron pipe works, bridge and bolt works, etc.; 8 stove foundries, 24 gas works, 34 electric light companies, 11 agricultural implement factories, 174 mining and quarrying enterprises, 16 carriage and wagon factories, 8 cotton mills, 23 furniture factories, 42 water works, 58 tobacco factories, 92 flour mills, 448 lumber mills (not counting small portable saw mills), including saw and planing mills, sash and door factories, stave, handle, shingle, hub and spoke, shuttle block factories, etc., in addition to which there was a large number of miscellaneous enterprises.

All this development represents so much money invested in machinery and plant, and so much paid for material and labor. It is scattered through fourteen States, giving to many thousands of persons the means of making an honest subsistence, building up centres of industry and civilization in mountain glens, and on hills and plains where there was before but a scant population, and showing in all directions substantial progress. There is nothing like these new industries for the Southern people. They preach a new gospel of work which means independence and prosperity.

BARON LIEBIG ON FLOUR AND FERMENTATION.

The following remarks are by Baron Liebig: "Many chemists are of the opinion that flour, by the fermentation in the dough, loses somewhat of its nutritive constituents, from a decomposition of the gluten; and it

has been proposed to render the dough porous without fermentation by means of substances which, when brought into contact, yield carbonic acid. But on a closer investigation of this process, this view appears to have little foundation. When flour is made into dough with water, and is allowed to stand at a gentle warmth, a change takes place in the gluten of the dough similar to that which occurs after the steeping of barley, in the commencement of germination in the seeds, in the preparation of malt: and in consequence of this change, the starch (the greater part of in malting, in dough only a small percentage) is converted into sugar. A small portion of the gluten passes into the soluble state, in which it acquires the properties of albumen, but by this change it loses nothing whatever of its digestibility or of its nutritive value. We cannot bring flour and water together without the formation of sugar from the starch, and it is this sugar and not the gluten, of which a part enters into fermentation, that is resolved into alcohol and carbonic acid. We know that malt is not inferior in nutritive power to barley from which it is derived, although the gluten contained in it has undergone a much more profound alteration than that of flour in the dough; and experience has taught us, that in distilleries where spirits are made from potatoes, the plastic constituents of the potatoes and of the malt which is added, after having gone through the entire course of the processes of the formation and the fermentation of the sugar, have lost little or nothing of their nutritive value. It is certain, therefore, that in the making of bread there is no loss of gluten. Only a small part of the starch of the flour is consumed in the production of sugar, and the fermentation process is not only the simplest and best, but also the cheapest of all the methods which have been recommended for rendering bread porous."

GROW MORE OATS.

The use of oatmeal as food for human beings is rapidly extending in this country. Fifty years ago there was not a bushel of oats used for any other purpose than horse feed in the United States. Now there are mills owned and run by millionaires in this and other states which are exclusively employed in making oatmeal for diet for men and women.

It is well known that this commodity has been a favorite kind of food in Scotland and other parts of Europe over a hundred years. Bobby Burns in his poems more than once celebrates the virtues of "porritch" in the rearing of branny men and healthful women. And yet so fixed are national prejudices that the use of a new article of diet, however desirable and meritorious, is slower than it ought to be; so that to find a family that has oatmeal on the table once every day is the exception rather than the rule in this country; and as simple as the preparation of a good dish of the material is, one rarely meets a cook or a housekeeper who knows how to make it well.

During the Irish famine, some thirty years ago, we recollect that a cargo of corn, which was shipped from Marietta, in Ohio, to Cork, and offered as a bounty to the poor people to prevent starvation, was rejected with scorn at first as food only fit for swine.

"Oats is only fit for horse feed," say our scornful American youth; "for our part we are satisfied with beefsteak, boiled ham, eggs, hot cakes and coffee." And thus they gorge themselves with viands and drinks which induce dyspepsia and other diseases in proportion as they are taken hastily and in excess.

The writer has partaken of many a good, satisfactory and nourishing breakfast on oatmeal and cream, and can warmly commend their use as producing branny men and beautiful, healthy women. Physiologists and economists attribute to the Scotch much of their energetic and effective character to the hearty porridge on which their youth is mainly reared, and we are inclined to believe there is much in the claim.—*Cincinnati Commercial Gazette*.

TAKING THE PREMIUM OFF STRIKES.

It is Mr. Powderly's belief that there will be fewer strikes and labor disturbances the coming year than occurred during the last year. He believes that the abolition of the assistance fund, which was accomplished at the Minneapolis meeting of the Knights of Labor, "will tend to take the premium off strikes." He is undoubtedly right in this view. It was, in fact, nothing else than putting a premium on strikes to assess the working members of the order for the benefit of the strikers. With a large fund to draw upon when their wages should stop, there was a standing inducement for men to go on a strike even when they had no grievance worth striking about. They were more ready to walking delegates and disturbers than they would have been had they realized that they must stand or fall by themselves, and that the loss of their wages would not be in part made up to the idlers by a tribute levied upon the earnings of those at work. It was the "assistance fund" that started or maintained many a strike, and the Knights have done wisely in cutting off this incitement to industrial disturbance. Industrious and temperate workingmen grew very restive upon being frequently called on to support a lot of strikers in idleness who, for all they could see, had nothing to strike for and might as well be at work as themselves. This feeling was expressed in the action of the General Assembly at Minneapolis. With the "assistance fund" cut off, there is a good reason to believe that there will be fewer strikes and more arbitration. Workmen who understand that when wages stop there will be nothing to take their place will think several times before throwing down their tools at the order of some paid agitator whose business it is to traverse the country and stir up trouble.—*N. Y. Commercial Bulletin*.

THE MEXICAN GRAIN TRADE AND THE RAILROADS.—The latest received *Mexican Financier* has the following: "The grain dealers are beginning to open fire on the National Railway and also on the Vera Cruz Road in the matter of corn (maize) transportation. The National and Vera Cruz railways have been, and still are, making special rates on corn to Yucatan, which is a public benefit, inasmuch as the people of the Peninsula are now able to buy Mexican instead of American corn. Undoubtedly some speculators have found their plans interfered with, and hence the outcry which will be received by the general public with philosophical serenity."

GRAIN ELEVATOR FIRES.

Two hundred and sixty-eight fires in grain elevators and storehouses in the United States reported in *The Chronicle* fire tables during three years ending with 1886 show as to losses:

An aggregate property loss of.....	\$3,994,318
An average property loss of.....	14,901
An aggregate insurance loss of.....	2,493,366
An average insurance loss of.....	9,304

AS TO CAUSES OF FIRES:

Number of fires from unknown and not reported causes.....	123
Number of fires due to exposure.....	66
Number of fires, reported causes, aside from exposure.....	74

Reported causes, aside from exposure, distributed as follows:

Incendiarism.....	31	Engines and boilers....	3
Sparks (locomotive)....	12	Tramps.....	3
Friction in machinery..	10	Spontaneous combustion	1
Lightning.....	7	Stove.....	1
Defective flues.....	3	Accident (not otherwise reported).....	1
Sparks.....	3		

The apparent chief cause of fires in grain elevators and storehouses, as ascertained from the reported causes, aside from exposure, is incendiarism. Percentage of incendiary fires, reported causes, aside from exposure, 41.9.

A twelve years' record of the number of grain elevator and storehouse fires (money losses and causes not given in *The Chronicle* fire tables prior to 1884) shows an average burning of 44 annually.—*The Chronicle*.

FEEDING GRAIN TO CATTLE.

Hay being scarce, there will be various devices resorted to, in order to carry cattle through the winter. Of course those who have grain will feed it, as the prospects of the price of corn will make it cheaper food than hay. In that case, it is well to consider the best way to feed hay and grain. It is well known that in feeding corn either in the ear or shelled, a large portion passes through the animals without being digested. And if hogs do not follow them, a large portion of the corn is lost. And when corn meal is fed it is ascertained that more of it passes through undigested than of whole corn. It is claimed that meal, taken by itself, passes immediately to the fourth stomach, where it is beyond thorough digestion. Prof. Arnold says he sold four fat steers to the butcher. He followed them to the slaughter house, and there just before they were killed, he fed them a peck of corn meal each. So soon as they could be slaughtered, and their stomachs reached, he found all the meal had already reached the fourth stomach. Not a particle could be found in the first, second or third stomach. Food should remain in the first stomach or the rumen long enough for the saliva, or pepsin, from the salivary glands to saturate it and be well started in the process of digestion. And then it will progress as it passes through the other stomachs to the paunch. That in this process of passing through the various stomachs the meal should be mixed with coarser food, such as hay, straw or corn fodder. And the more intimately it is mixed with and attached to the forage the better. Hence practical feeders claim that it pays to cut all hay, straw or fodder fine, wet it and sprinkle the meal upon it in a way that it shall adhere to and be masticated with it. In this way cattle never

have the scours caused by corn meal, nor does scarcely any of it pass through the animal undigested.—*Iowa State Register*.

STEAM FLOUR MILLS IN BRAZIL.

REPORT OF U. S. CONSUL TRAIL.

The proposed establishment of several steam flour mills in Rio having caused some discussion in United States newspapers in regard to their probable effect on the importation of American flour, I have collected a few articles, which are herewith inclosed,* that are of interest both for the information they convey and in that they look upon the enterprise from different points of view.

As the editor of the *Rio News*, of February 5, says:

"Regarding the production of wheat, it may be considered as an indisputable fact that Brazil will never (or at all events, not for many years to come) figure in the world's market as a wheat producer. Certain localities in the south and in elevated regions may produce a small quantity, but of inferior quality, for flour-making purposes."

The duty on flour per barrel being from 65 to 75 cents, varying with the rate of exchange, and wheat being admitted free, it is claimed by the promoters of the undertaking that by the use of the best machinery and careful management a large profit can be realized here in flour milling with imported wheat, until such time as a sufficient quantity of the cereal is grown here to satisfy the home demand.

The companies have not obtained, nor so far as I can learn, have they as yet asked for any concessions from the Government. It is proposed simply to take advantage of existing tariff regulations and to interest Brazilians to an extent that will insure against the placing of wheat on the tariff list. It naturally follows that if the experiment does not prove successful from the start, a strong pressure will be brought to bear on the Government to have the duty on foreign flour increased. Should these undertakings succeed and so drive out of Brazil, American flours, our Government will doubtless render to its millers such assistance as the case calls for. In view of our large and increasing purchases of Brazil's staples, it would seem to be only polite on the part of the Empire to show some slight mark of favor to an American industry threatened with destruction.

Of course these mills, if ever erected, will be an experiment whose success is not by any means assured. I am informed from an intelligent source that the whole affair is simply a gigantic speculation, out of which certain parties expect to reap a rich harvest. But for this I cannot vouch.

FLOUR IN COLOMBIA, SOUTH AMERICA.

REPORT OF U. S. CONSUL VIFQUAIN.

Forty dollars and more per barrel is the price of flour here along the coast, a great portion of which is custom duties. As a result, the imports of flour from the United States are not what they might be, the laboring classes being unable to use such an expensive article.

I estimate, from figures collected, that where 1 barrel of flour for consumption, say 5 bushels of wheat, is imported now, 8 barrels, or 40 bushels of wheat in the grain,

*The articles are extracts from a number of Rio newspapers.

would be imported and consumed if it were manufactured here and sold at "reasonable" rates, i. e., from \$5 to \$7 per 100 pounds weight. That is to say, if 100,000 barrels are imported from the States for the Colombian market, outside of the Isthmus of Panama, the equivalent of 500,000 bushels of wheat, eight times this amount in wheat, or 4,000,000 bushels of wheat, would be imported.

To be sure, this is not much in proportion to what our crop generally is in the States; but then it would always be that much, with promise of a large increase in the near future; it might become an immense factor in establishing on this continent a substitute for the market for wheat that we have lost in Europe, and facilitate perhaps not a little in enabling the fixing of the standard value of silver as a staple in the United States instead of Great Britain, for the South American States are essentially silver communities. I might also call your attention to the fact that the wheat for this coast can come all the way from St. Paul, Minn., or Omaha, Nebr., by means of water transportation.

I am lead to believe that if parties in the United States were to establish flouring mills at this place, or at Carthagena, all the machinery for these mills, and all the material necessary for their construction, would be admitted free of duty; nay more; I make bold to say that every bushel of wheat needed for these mills would be admitted free of duty; and this is the one great point I wish to make in this report. Unable to create such a market for our flour as we ought to have, we should strive to create one for the raw product.

The consummation of this by American millers would be an entering-wedge, which would be of telling effect between the trade of the United States and Colombia for the future. Concessions by the Government of Colombia can be secured for all this, which will, so to speak, give a monopoly to the United States for the wheat to be used here.

VICTOR VIFQUAIN, Consul.

United States Consulate, Baranquilla, July 6, 1887.

MISS YATES' RECIPE FOR WHEAT-MEAL BREAD.—*Ingredients*.—Fourteen pounds of wheat-meal, three ounces of French or German yeast (larger quantities of meal require a smaller proportion of yeast), three quarts of water (some meals are improved by using rather more water), one and a quarter ounces of salt (this small quantity of salt, half the amount used for white bread, is a great improvement to wheat-meal bread).

Method.—Dissolve the yeast in cold water (about 66 deg. Fah. Wheat-meal ferments so rapidly, that, if the water used reaches a temperature of 70 deg. Fah., the bread, especially in hot weather, is very liable to become sour.) Mix the meal and salt, then stir in all the yeast and water with a wooden spoon, making a slack dough or batter. Do not knead the dough. Place it at once in tins and let it rise for an hour and a half in a moderately-warm place, about 100 deg. Fah. Bake in a moderately-hot oven with plenty of steam for about an hour and a half. The oven should be made cooler the last half hour. If this cannot be done, place a flat tin at the top of the loaves to keep in the steam. Take care that the oven is not too hot. The crust of wheat-meal bread becomes hard if baked in the hot ovens required for white bread. Avoid using white sponge. Avoid using chemical baking powders, as the product left in the food are almost always more or less objectionable.

UNITED STATES MILLER.

E. HARRISON CAWKER, EDITOR.

PUBLISHED MONTHLY.

OFFICE, NO. 124 GRAND AVENUE, MILWAUKEE.

SUBSCRIPTION PRICE—PER YEAR, IN ADVANCE.

To American subscribers, postage prepaid..... \$1.00
 To Canadian subscribers, postage prepaid..... 1.00
 Foreign subscriptions..... 1.25
 All Drafts and Post-Office Money Orders must be made payable to E. Harrison Cawker.
 Bills for advertising will be sent monthly, unless otherwise agreed upon.
 For estimates for advertising, address the UNITED STATES MILLER.

[Entered at the Post Office at Milwaukee, Wis., as mail matter of the second-class.]

MILWAUKEE & CHICAGO, NOV., 1887.

We respectfully request our readers when they write to persons or firms advertising in this paper, to mention that their advertisement was seen in the UNITED STATES MILLER. You will thereby oblige not only this paper, but the advertisers.

MILWAUKEE millers express themselves as satisfied with the business of late. The mills are running in full time and are making a fair profit.

WE respectfully call the attention of all parties receiving this paper to the liberal offer made subscribers, on another page. In substance it is as follows: For Two DOLLARS we will send post-paid to any address in the United States or Canada THE UNITED STATES MILLER (monthly) and *The N. Y. World* (weekly), for one year and a "Pocket Atlas of The World," containing 138 maps and valuable condensed descriptive matter, and either one of the following books (see description in advertisement on page 11.) "History of The United States"; "History of England"; or "Everybody's Guide." These are handsome books, elegantly bound and very suitable for Holiday Presents. Can give but one book with each subscriber.

WE call the attention of Millers and Flour Brokers to the Private Telegram Cipher advertised on page 11. It is pronounced to be the simplest and most accurate work of the kind published. It is the result of years of labor and practical experience in its use.

CAWKER'S AMERICAN FLOUR MILL AND GRAIN ELEVATOR DIRECTORY FOR 1888 is now in course of preparation and will be ready for delivery in February, 1888. The publisher (E. Harrison Cawker, No. 124 Grand avenue, Milwaukee, Wis.) desires all flour mill owners to send him their correct name and postoffice address, with the capacity in barrels of flour per day of 24 hours and to state whether they use steam or water power or both, or rolls or millstones or both. Elevator owners are desired to send elevator capacity and number of elevators owned by the firm. Full replies will be of benefit to the entire trade.

MILWAUKEE ITEMS.

JOHN DUGAN, for over twenty-five years an employee in the St. Paul Company's Elevator B, was killed Nov. 7. While walking along on one of the upper floors, he accidentally

stepped into a grain hopper, not noticing in the darkness that a trap door had been left open. The iron buckets at the bottom of the hopper were in motion at the time, and nearly amputated the man's legs. His body was also dreadfully squeezed. The machinery was stopped as soon as the alarm was given, but his injuries were so great that he died in an hour from the time of the accident. He was 72 years of age.

Mr. Eckel, of Blue Rapids, Ks., made us a call. He has sold out in Kansas, and is looking for a location.

FOREIGN ITEMS.

THE first sod of the Manchester Ship Canal was turned Nov. 11.

BRAN LOAVES.—A Berlin company, called the Berlin Bread Making Company, has introduced a new article in the form of loaves made of bran; local vegetarians prefer this to wheaten bread, we are told; certainly there is no accounting for tastes.

THE duty on machinery imported into Austria has been reduced fifty per cent.

It is a matter of considerable difficulty to obtain a patent in Germany. All applications are referred to a technical committee for examination and approval. This committee has a right if they desire to do so to reject any application without giving any reason.

SEVERAL Austrian millers are stated to have lately joined in a petition to the Government asking that means may be taken to put down the gambling in grain, of which the Vienna Corn Exchange is said to be the theatre. The petition sets forth that this gambling is not only injurious to public morality, but that it inflicts direct injury on the milling trade by subjecting their staple raw material to sudden and artificial fluctuations in value.

AUSTRIAN MILL INSPECTORS.—It is clear that in Austria factory inspectors do their work in no perfunctory manner. Many millers in that land are still smarting under the last inspection, and here are a few of the injunctions which one of the inspectors lately laid upon a miller. That individual was strictly charged to repair all faulty stairs, to provide the best covers for all his manholes, to protect his water-wheel and its approaches with stout wooden walls, to provide all shafts with automatic lubricators, to remove or cover up all set screws, to protect by a covering of some sort all shafting and belts within a foot and a half of the ground, to provide all belt-driven machines with slack and fixed pulleys, to instruct his staff to warn all entering the mill of possible dangers, and to enjoin on all in authority in the mill to call attention to every careless act, and on a repetition of the offense to report the offender for punishment, etc., etc., to which a Viennese milling journal remarks: "All very well and desirable, and if the mills of the country had to be built over again we might bear these precepts in mind, but having to do with many ancient structures we have to make the best of them." Moreover, it is urged, this is not the time to call on the millers to make costly changes, however theoretically desirable.—*The Miller, London.*

ITEMS FROM OVER THE SEA.

A THREE hundred barrel all roller steam mill is being erected in Sandhurst, New South

Wales, for Messrs. Webb & Co., by an English firm.

THE Argentine Republic is subsidizing almost every kind of scheme that will in any way develop the country. According to a late census the population of Buenos Ayers is now 460,000, and at the present rate of increase will be 800,000 in ten years.

GREAT destitution and suffering are reported from Cilicia, province of Adang, Asia Minor, on account of the failure of crops and consequent scarcity of grain.

THE quantity of wheat required in New South Wales for the present year is estimated at 6,722,086 bushels. These figures show a deficiency over the harvest returns of 766,927 bushels. Last year the short crop made the imports much larger than usual, although the colony for many years has not been able to produce a sufficient quantity of wheat and other breadstuffs for home consumption. The imports of wheat into the colony during 1886 were 1,105,079 bushels, valued at \$1,000,435, against 545,423 bushels, valued at \$477,725, for the year 1885. Of the imports for 1886, New Zealand furnished the largest proportion. The quantity imported from that colony was 437,486 bushels. The United States came next, with 356,005 bushels. Victoria furnished 285,721 bushels, and the remainder was from India, South Australia and Queensland.

FLOUR MILL DIRECTORY FOR 1886-87.

All persons desiring to reach the milling trade should invest at once in a copy of Cawker's American Flour Mill Directory for 1886-7, issued Feb. 1, 1886. It is carefully compiled; contains 18,289 addresses in the United States and Canada; shows in thousands of instances the capacity, power and system of milling (i. e. whether the stone or roller or combined system is used). It also contains a list of millwrights and American and European flour brokers. The book is sold at \$10 per copy and can be obtained by addressing the United States Miller, Milwaukee, Wis. This Directory is published once in two years.

THE ice palace and carnival celebration at St. Paul will open on Wednesday, January 25, 1888, and continue until Saturday of the week following. The plans for the ice palace imply a building 190 feet in width and 195 feet long, with a tower 120 feet high and 50 feet in diameter, in the center. At one corner is the maze, 80 feet in diameter, with five circular walls before its center is reached. The four corner towers will be 80 feet in height, and the towers on the wall will be from 40 to 60 feet high. The outer wall will be of an average height of twenty-eight feet.

A DISPATCH from Jackson, Mich., dated Nov. 25, says, that George T. Smith, president of the purifier company of that city, stated this morning that the company had been offered ten acres of land worth \$20,000 and a cash bonus of \$4,000 to remove its works to St. Paul. He said, the company would probably accept and be in St. Paul inside the coming year. The purifier plant is worth \$1,000,000 and employs nearly 500 men. He said they wanted increased facilities.

NEW YORK FLOUR INSPECTION.

LOWERING THE STANDARD AND ITS EFFECTS ON NEW YORK MARKETS—HOW TO MAKE A LARGER MARKET OF NEW YORK.

Since the standards of inspection of flour for the new crop have been made there has been a great deal of complaint in the trade regarding the changes which have all been in the direction of lowering the grade to the detriment of New York as an export market, so it is stated. In order to ascertain what foundation there is for these complaints the opinion of one of the largest export buyers of flour in this market was asked in regard thereto. "Plenty of foundation," was the answer. And when asked to explain, he made the following statement:

"The trouble is two-fold; there has been an idea on the part of some receivers of flour, who seem to have a full representation on the Flour Committee this year, that by lowering the standards of inspection in New York more flour would be attracted to this point, and thus make a larger market for flour here and bring back the export trade, the bulk of which has gone west direct to the millers in the past few years. The other trouble has arisen from making inspectors of a lot of bung drivers, said he, who know no more about the close distinctions in flour, which require a trained expert to make, than a blacksmith does about the jewelers' art. This is the greater evil of the two, for these inspectors can't tell whether they are working up to the standard given them or not, and as the tendency is to work the grade down instead of up in the Flour Committee, of course these inspectors when in doubt err on the safe side. Now the effect of all these changes can be easily seen, and instead of accomplishing the laudable object intended of bringing more trade to New York, it is actually being driven away, for the very apparent reason. As stated, the Committee yielded to the demand for these changes, in order to get back the export trade that has been done so largely with the mills in the west direct. But it did not occur to them that the means adopted would more surely drive export buyers away from this market than they would attract consignments from the western mills. Without an export demand here for the flour consigned, because of an easier inspection, the western millers would cease shipments to this market; and as they would find the exporter more ready to trade direct at the mills on their (the millers') terms than before, the little export trade left to New York would be driven away, and only forced sales at prices below the mills would tempt exporters to buy here, except in cases of scarcity, or when quicker shipment was required than could be had from the west, when our city mills would get this business, and not the receiver of western flour, in whose interest these changes were supposed to have been made. This result has already been seen in the recent unusually heavy purchases we have been compelled to make of city mills flour, of which the largest sales on record were recently made. These city millers are therefore the only ones benefitted by these changes in the standards of inspection.

"The only way to make a larger flour market of New York is to attract buyers here first and the sellers will follow. The Flour Committee have got their cart before their horse and are trying to go ahead backwards, and with the result already seen. Now I will give

them one or two points gratis on the means necessary to get back the flour export trade that has gone west, for which good object we exporters will co-operate cheerfully, as it is as much to our interest as that of receivers of flour to have the business done here through us and under our personal supervision instead of direct by the importers in Europe with the millers in the west; for this direct western business is mostly done over our heads and hurts us who lose the commission for buying as much as it does the receivers who lose the commission for selling. Let the Flour Committee, backed by the influence of the Produce Exchange, demand of the Inter-State Commerce Commission that the Inter-State law shall be enforced by the Trunk Line railroads, which are not only discriminating against the New York market, and against this port as a shipping point by open or secret violations of this law as badly as they did before it went into force, but they are building up a few large millers in the west at the expense of all the smaller ones, who cannot make contracts for large and continued shipments of flour at cut rates as the big western millers did recently, when the Trunk Lines opened war on each other apparently with a general reduction of rates just long enough to let these big millers in on the 'ground floor' for all the flour they could ship till into January next.

"After this was done with the flour millers as it was with the big western pork and beef packers, the 'war was stopped,' rates 'restored' and the millers who were left out in the cold of course have had to pay 'tariff rates' since then. But, in spite of all the Trunk Lines officials denials of cut rates and discriminations and contracts 'made since' the restoration of rates, I happen to know that contracts made before that restoration at the cut rates of the early fall, are still in force and were made to run into January next for all that those lucky millers can ship, by which they are able to undersell the New York market 20c. per bbl. or 10c. per 100 lbs., and have been doing so for 2 months, during which I have been buying all the flour they would sell me, for these big mills are sold ahead on the outside for two to three months, or until these contracts, at the cut rates on which they are shipping flour for me and other exporters who buy of them instead of here. Let the Flour Committee dare the railroads to retaliate on them personally by withdrawing all favors and press their demand for a correction of this abuse by the Trunk Lines and see to it that these amateur inspectors of flour are either educated to the business or replaced by experts, and then restore their own standards of inspection, and they will have the hearty co-operation of shippers, instead of their opposition, as now, for changes that will bring both buyers and sellers of flour to this market and hold them here.—*N. Y. Commercial Bulletin.*

A WOMAN farmer in California has cause to be proud of her record in raising wheat this season. She has a farm of 3,000 acres; from this she harvested about 2,000 tons of wheat, which she sold at \$31 a ton, clearing about \$60,000. She owns a combined harvester which will cut, thrash and sack 30 acres a day. When her crop was ready for the sickle she started her machine, hired four more and the five went marching around her golden fields—20 men and 120 horses, cutting thresh-

ing and sacking 150 acres of wheat each day. It kept five of the men busy sewing up the sacks of grain as they came from the separator; five drove each a 24-horse team, five tended each a sickle, and the other five each to a separator. In a minute the standing grain is in the sack ready for transportation. The owner, whose name is Crow, is a widow and attends to the business herself.

THE driven well patent has been declared invalid by the Supreme Court of the United States, in the case of Andrews, Green and others against George Hovey, appealed from the U. S. Circuit Court, Southern district of Iowa. Heretofore the decisions have nearly all been in favor of the patentees on the issues presented, but this defendant proved to the satisfaction of the court that the invention was used in public at Cortland, N. Y., by others than the patentee for more than two years before his application for a patent, which fact is fatal to the validity of the patent. This decision will rejoice the hearts of those Western farmers who have steadily resisted the payment of a royalty for the use of driven wells, but it comes too late for those who were afraid of a lawsuit.

IN respect of the horse-power required for milling, *Power and Transmission* says:

It ought to take about 40 horse-power to make 100 barrels of flour per twenty-four hours. This, if steam is used, will require the evaporation of from 15 lb. to 40 lb. of water per hour per horse-power; or from 1,000 lb. to 1,600 lb. of water per hour; say 24,000 lb. to 39,400 lb. of water for the 100 barrels of flour. This will be from 240 lb. to 384 lb. of water per barrel of flour. The boiler will require from 1-5th lb. to 1-10th lb. of coal per lb. of water; so that if the water required is only 240 lb. per barrel of flour, the coal required may range from 24 lb. up to 48 lb. per barrel of flour. If 384 lb. of water are required per barrel of flour, then the coal required may run from 38.4 lb. per barrel, up to 76.8 lb. So you have the extreme of 24 lb. and 76.8 lb. of coal, the maximum being about three times the minimum.

It has been computed that the carrying capacity of a freight car of ten tons is: Wheat, 340 bushels; corn, 400 bushels; potatoes, 430 bushels; apples, 370 bushels; oats, 680 bushels; lumber, 6,000 feet; butter, 20,000 pounds; flour, 90 barrels; whisky, 60 barrels; wood, 6 cords; cattle, 18 to 20 head; hogs, 50 to 60 head, and sheep, 80 to 100 head.

A CHRISTMAS EPISODE.—All the guests but myself were seated around the table, and I had just left it. While passing through the passage where hung the coats and hats, I felt one of the pockets of a coat brushing rather heavily against my elbow, and I took from that pocket a bottle of champagne that I recognized as being brought up to the table an hour before. A pretty mean thing to do—accepting a man's hospitality and then stealing his wine. But what was my astonishment at hearing as the guests were departing, old Shabbiman say, as he discovered his coat pocket to be minus the bottle. "What! that bottle's gone! I never see such a lot of thieves as there is 'ere in my life!"

PUBLICATIONS RECEIVED.

THE AMERICAN MAGAZINE for December will be a Christmas number. Its leading article, by Wm. H. Ingersoll, will discuss the peculiarities of the accepted likeness of Christ, and recount the legend of its origin. This likeness is traceable in the sacred art of all Christian nations from the beginning of our era. Mr. Ingersoll will more especially describe the endeavors of distinguished American painters and sculptors to represent this ideal. This article will be abundantly illustrated.

SCRIBNER'S MAGAZINE for December is a Christmas number and full of good things.

H. C. Bunner's story, "The Zadoc Pine Labor Union," is filled with humor and genial satire exposing the absurdity of the foreign ideas about labor and capital which have found a foothold among workmen in this country. E. H. Blashfield, the well-known painter, and his wife, who have been frequent residents and close students of Florence, have contributed a delightful paper associating some of the most picturesque features of that city with the scenes of George Eliot's famous romance, "Romola." Mr. Blashfield has made sixteen beautiful drawings to illustrate it. Bret Harte's story is entitled "A Drift from Redwood Camp." The scene of it is on the Pacific coast—the region of his early successes. The hero of it "Skeelsicks," is an interesting type of the "no-account man." Among the skillful engravers whose work will appear in the Christmas Scribner's are such well-known names as Robert Hoskin, Frank French, E. Heinemann, Elbridge Kingsley and Fred. Juengling. The cover of the Christmas number of Scribner's Magazine will be something entirely unique in the field of magazine publication.

THE INTER-NATIONAL TELEGRAPHIC CODE for the use of flour merchants and their agents, compiled by W. H. Dunwoody, is published and sold exclusively by The Northwestern Miller Minneapolis, Minn. This Code is used quite extensively by the trade, and the revised edition just out will no doubt meet with an excellent demand.

WISCONSIN FARMERS' INSTITUTES for 1887, edited by W. H. Morrison, Superintendent Board of Regents of University of Wisconsin. This work contains a number of essays valuable to farmers. Thirty-one thousand copies have been printed for free distribution among the farmers of Wisconsin. It is to be hoped that the Farmers' Institute will be of great benefit to Wisconsin farming interests.

THE AMERICAN NEWSPAPER ANNUAL for 1888, by N. W. Ayer & Son, Philadelphia, is a volume of 1170 pages, containing a full list of Newspapers and Periodicals of all descriptions in the United States and Canada, with all essential particulars, and conveniently arranged. It enumerates also the various Press Associations, and comprises descriptions of States, Territories and Canadian Provinces, and of the countries as to location area, navigable streams, surface, soil, productions and manufactures. It gives the population of every State, County and County-seat, and of all the large cities and towns; and the number of votes polled in each State by the various parties. It shows in alphabetical order the cities, towns and villages having a population of 5,000 and upwards; the number of counties in each State, and how many newspapers are published in each. There is a large amount of miscellaneous information, presented in the best form, and for business and other purposes the volume is worth three dollars, the price of it.

R. G. DUN & Co.'s Mercantile Agency dated N. Y., Nov. 19, says: More than a third of all the wheat which will leave the farms throughout the country during the entire crop year, was sold in this one city during the past six days. Reported sales reached 107,300,000 bushels wheat, 22,257,000 corn, 8,273,000 barrels oil, 1,046,400 bales cotton and 468,000 bags coffee. Wheat advanced 3½ cents, corn 4½, oats 1½, oil 1½ and coffee half a cent, while cotton declined a sixteenth; hogs, pork and pork products were excited, hogs rising 40 cents per 100 pounds and lard 20 cents; tin jumped 3½ cents again, and copper nearly one cent. Apprehended deficiency of supply

is the excuse for the excited advance in some products, but the bottom fact is, that more currency is in circulation than ever before, and Treasury deposits with banks feed the speculative fever, while removing the fear of monetary pressure at the chief centres of trade. Meanwhile, money remains light at many interior points, and complaints of slow collections do not abate. * * *

The great speculation in wheat goes on, in spite of a decline of 3,200,000 bushels in October exports, and 3,300,000 bushels in September. "Never mind the exports; we are making money," the traders say; but the quantity remaining on hand November 1st, after allowance for a full year's consumption, was 109,900,000 bushels, whereas the exports for the remaining months of the last crop year were 100,768,941 bushels. Corn is excited because of the Bureau reduction of 50,000,000 bushels in its estimate; at the same time pork products and cattle rise. Yesterday's markets showed a sharp reaction in grain, but whether the speculation has culminated no one can say. Cotton has reacted but little from the great advance caused by the Bureau report, but receipts continue large beyond precedent; if the Bureau estimate of 6,300,000 bales is correct, the quantity which has come forward already, about 3,254,000 bales, is not less than 51.6 per cent. of the year's yield. It is strange that some are in doubt about it. * * *

Coal is in great demand, the Reading having given notice of another advance for the 21st.

Exports for two weeks from New York fall 15.1 per cent. below last year, but imports here also fall short by 85 per cent. The Treasury continues to swell its deposits with banks, adding \$2,450,000 since last week, but has taken in \$2,400,000 gold, while putting out \$1,600,000 silver notes. Money is in fair supply at the chief centres of trade, but the movement westward has not even yet entirely ceased.

A SUBSTITUTE FOR HYDRAULIC CEMENT.

—According to a statement of Mr. Miles, a well-known engineer, it is a fact peculiar to Spanish countries, that ordinary brick dust, made from hard-burned, finely-pulverized bricks, and mixed with common lime and sand, is universally and successfully employed as a substitute for hydraulic cement. Mr. Miles says that during an engineering experience of some six years in Cuba, his opportunities were ample for testing its merits, and he found it in all respects superior to the best Rosendale hydraulic cement for culverts, drains, tanks or cisterns, or even for roofs. In an experiment to test the strength of this product, it was found that a block of it, 4" in thickness, without sand, and after immersion in water four months, bore without crushing, crumbling or splitting, a pressure of fifteen pounds per square inch. It is thought that, by the addition of pulverizing mills to brickyards, to utilize the waste and broken bricks, a profitable manufacture might be carried on.

THE OLDEST FORM OF BREAD.—Biscuits are the oldest form of bread. At what period of man's history the lightening of dough by fermentation was first adopted no one, of course, knows. It is, however, certain, that cakes make of nothing but meal and water

and then baked are very much older. Fragments of unfermented cakes were discovered in the Swiss lake dwellings, which belong to the neolithic age—an age dating back far beyond the received age of the world. This is the earliest instance of biscuits as yet discovered, for biscuits are merely unfermented bread. Although this rude form of bread was early discarded for the fermented variety, yet in this, as in many others, it was found convenient to return to the discarded and apparently valueless process. Thin, unfermented cakes were found to possess merits for special purposes. They would keep good for a great length of time, and they were convenient to carry, and thus afforded wholesome and nutritious food in a portable and convenient form. The simplicity with which they could be made and baked was also a point in their favor. It is not a little odd that the word "biscuit" embodies the process by which biscuits were made from time immemorial to within the last century, if not, indeed, later. *Bis*, twice, and *coctus*, cooked, shows that they were twice baked; and although the double process has now been discarded, yet the name is retained.

THE New York Mail and Express of Nov. 1, 1887 gives the following as the present elevator capacity and receiving or first storage charges on grain at leading points in this country:

	St rage capacity, bushels.	Original charges receiving per bushel.
New York.....	28,000,000	¾¢ first 10 days
St. Louis.....	12,150,000	1 ¢ first 10 days
Buffalo.....	13,980,000	¾¢ first 5 days
Baltimore.....	5,050,000	1¼¢ first 10 days
Philadelphia.....	4,100,000	¾¢ first 10 days
Toledo.....	7,257,000	¾¢ first 10 days
Chicago.....	27,025,000	¾¢ first 10 days
Milwaukee.....	5,630,000	¾¢ first 15 days
Duluth.....	10,300,000	1¼¢ first 20 days
Minneapolis.....	13,000,000	1¼¢ first 20 days
Total.....	135,582,000	

A RECENT official report on the development of trade in India states that during the year ended in March last upwards of 1,000 miles of new railway had been completed and opened for traffic, and there were at that time 3,200 miles under construction or already sanctioned. Since 1873 railways in India have extended from 5,880 miles to 13,390 miles, a development which is calculated to have laid more than 100,000 square miles of Indian soil under contribution to the export trade. This is unquestionably an important factor in the development of the country, and, in one sense, in the future relationship of India to western agriculture. It may be added that India's wheat exports increased somewhat last year as compared with any preceding years. Owing perhaps to temporary depression in European markets, and competition by other quarters of the globe, neither coffee nor cotton acreage was extended. But the tea industry goes on increasing, and wheat cultivation has grown until now the normal area under wheat is put down at nearly 27,000,000 acres, and the yearly product at more than 7,000,000 tons. "There is little doubt," says the Edinburgh Scotsman, "that, in the course of a few years, India will have become an important rival as a wheat producer of Southern Russia, the United States and Manitoba."—Bradstreet's.

REFORM IN MILL CONSTRUCTION.

Anton Hamma of Trieste, Austria, says, under the above head:

I have seen in various countries mills which, owing to the superfluous amount of machinery they held, better deserved to come under the head of machinery exhibits. A mill owner near Budapest invited me to visit his mill, a comparatively modern establishment, erected by a well known builder. Employing 40-h. p., with a capacity of under 90 brls. per twenty-four hours, there were 27 men at work, and yet the product did not compare with other flour for excellence. No wonder! The space was so filled with machinery, good machinery in itself, but present in such superfluous amount, that no rational arrangement of it could be secured. For the production named, fourteen middling purifiers were at work, emptying the products into tubs. The results desired were not attained, and it was reasoned that the head miller must be at fault, since neither the theory or the builder could be in error. So the miller was discharged and a series of others tried, till no one could be found to take charge of the mill, still without improvement in results. Finally a head miller appeared who roundly declared, that good work could not be done with the plant as it was, and demanded the advice of an unprejudiced expert. I was called in after another engineer who, after long examination, reflection and computation came to the conclusion that the purifying system needed additions, and recommended the purchase of certain machines for the purpose. It is easy to imagine the astonished expression of the long suffering owner, when I assured him that his mill was suffering from too much machinery, and too little continuity and harmony of operation. A thorough reconstruction was made after he had been convinced, the number of purifiers being reduced to six in the process. At present the mill works satisfactory, and the head miller is not changed.

OREGON TRADE WITH SAN FRANCISCO. There has been quite an increase in wheat and flour from Oregon for the year, in wheat especially, which is about double what the whole of the receipts of 1886 were. By the close of the year we will have received nearly a million and a half cents. Receipts of salmon have fallen off heavily, showing that Oregon salmon for the future will only in small part seek this market. Receipts of apples have fallen off heavily too. In the matter of hides we will do a little better than last year. Our receipts of wool have increased nearly five thousand bales. Shipments of flaxseed hither have fallen off, receipts of oats have also fallen off, as also have those of potatoes and bran. The falling off shown here is only temporary. The value of the imports from Oregon for ten months of the year is about four million dollars.—*San Francisco Journal of Commerce.*

NORTHWESTERN WHEAT MOVEMENT.—Some of the Northwestern lines or elevator people are beginning to regard with suspicion the possibility of large farmers' deliveries of wheat for the remainder of the crop year. At some points the wheat is pretty well out of

farmers' hands, and the elevators nearly empty. It has been the intention of the elevator men to stop shipping wheat out of their country houses whenever in their judgment there would be no more left, in the hands of farmers in the vicinity, than to fill the houses. It is their policy to hold wheat in country elevators to get out of them carrying charges. There are points that still have a surplus, and it is from such that the movement now comes. When these points are shipped out, so that the houses in the country will hold the remainder, there will be a sudden ending of the large Northwest movement. That time is not so very far away as many imagine.—*Minneapolis Market Record.*

NONSENSE.

Omaha World: Omaha Customer: "I want a box or herring."

Honest Grocer—"Yes, sir; dried."

"No; packed in cotton seed oil."

"Yes sir. John, bring me a can of those imported sardines."

DINGLEY—Oh, I'm just like I used to be. By the way, Peckham, how's your wife. You used to say you had the boss girl when you were single. Peckham (sadly)—She's still boss.

New York Sun: Gentleman (in clothing store)—I find that I have got to go to Montreal to-night, and I want a suit of clothes.

Clerk—Yes, sir. You want a cut-a-way coat, I s'pose.

ADJOURNED THE BEAR HUNT.—"Any bear about this neighborhood?" he inquired as he leaned an \$800 breech-loader carelessly in the hollow of his arm.

"The woods is full of 'em," said a citizen. "One of 'em bit my brother's leg off yesterday. Are ye loaded fer b'ar, mister?"

"No, sir," replied the young man, hastily boarding the train; "I'm only loaded for rabbits."

WIFE—"What are some of the requirements necessary to make a successful poker-player, my dear?" Husband—(thoughtfully)—"Well, a man must be cool, calculating, crafty, deceitful, selfish, sly and have a touch of meanness in his disposition." Wife (shocked)—"I shouldn't think you would care to play with such people." Husband—Oh, I most always win!"

Omaha Herald: Mrs. Muggs: "Muggs, you are a wretch."

Mr. Muggs—"Why, why. My dea, what—"

Mrs. Muggs—"Don't 'dear' me, villain. Didn't you tell me that a typewriter was a machine?"

Mr. Muggs—"And so it is."

Mrs. Muggs—"Indeed! Then why did Mrs. Wilkins say that your typewriter had beautiful blonde hair?"

IN AUSTRALIA—Briton (to Chinese bartender)—Give me an 'alf and 'alf, John. John hands him a glass half full. Briton—Blawst you, I said 'alf and 'alf. John—Yes. Allee right—halfee fullee; halfee no fullee.

A FEMALE servant sweeping out a bachelor's room found a four-penny piece on the carpet, which she carried to the owner. You may keep it, for your honesty," said he. A short time afterwards he missed his gold pencil case and inquired of the girl if she had seen it. "Yes, sir," was the reply. "And

what did you do with it?" "Kept it for my honesty."

Nashville American: "I'm thinking of building me a house," said Jones to Smith last evening. "Good idea," said Smith; "how much money have you?" "About \$3,000." "Three thousand dollars; well, that will build a very neat \$2,200 house, with economy." P. S.—If you have ever built a house you will see the point.

Texas Siftings: An Austin mother said to her eldest boy the other night, at the supper table:

"Why, Franky. I never knew you to ask for preserves a second time."

Franky didn't say much, but his little brother Tommy, who was innocent of the ways of bad boys, spoke up with a guileless smile on his pure, little face, and said:

"That's because Franky lost the key he made to open the pantry. That's why he never used to want much preserves at the supper table. He used to get all he wanted before supper, but now he can't open the pantry."

After Franky's father had administered the proper corrective, and the stricken youth was left alone in the shed to repent of his crime, Tommy remarked to himself, as he sat down to study his Sunday-school lesson:

"I expect poor Franky is sorry he didn't give me some of them preserves when I asked him for them. He will know better next time."

HE SHELLLED OUT ABRUPTLY.—A German poet having loaned a small amount to a friend found it very difficult to collect the same, as his friend failed to recollect the incident. Meeting his friend in need the poet said:

"If you don't pay that 17 pfennigs which you owe me, I shall have to resort to extreme measures."

"And what may they be?"

"I'll dedicate my next poem in your honor."

The friend turned pale and shelled out abruptly.

SOLID WITH THE COP.—At noon yesterday a Michigan avenue grocer made a sudden dash for his open door, and a boy who had been standing outside made just as sudden a dash for the middle of the street.

"I tell you I won't stand this much longer," shouted the grocer as he shook his fist at the boy.

"What was I doing?"

"You were breaking those carrots to pieces."

"Well, can't a fellow see if they are ripe?"

"You look out! I'll have an officer after you!"

"The one on this beat?"

"Yes, the one on this beat!"

"Rats! He's a-courting my sister, and you can imagine the sort of collar he'd give me! Just let him walk me down town and Belle will shake him like an old door mat."—*Detroit Free Press.*

AN old Dutchman, who keeps a beer saloon has his third wife, and being asked for his views of matrimony replied: "Vell, den, you see, de first time I marries for love—dot vos goot; den I marries for beauty—dot vas goot, too, about as goot as the first, but this time I marries for monish, and dis is petter as both."

NEWS

ASSIGNED—Roger & Shell, millers at Fremont, O.
 BURNED—J. A. Yingling's mill at Seven Miles, O.
 BURNED—Clark, Heaton & Co.'s elevator at Clarks Neb.

DISSOLVED—Birkett & Spokes, millers, Potoskey, Mich.

BURNED—Flanagan & Co.'s mill, St. Louis, Mo. Insured.

BURNED—McHose & Talbert's mill at Varson, Mich. Total loss.

BURNED—J. S. Eaton & Co.'s grist mill at Taylorsville, Miss.

BURNED—The Goodlander Mill Co.'s flour mill at Ft. Scott, Kas.

DISSOLVED—Marshall & Jones, millers at Battle Creek, Minn.

DIED—S. C. Pierce, proprietor of the grist-mill at Brodhead, Wis.

DISSOLVED PARTNERSHIP—Mapes & Comtes, Spickardsville, Mo.

SOLD OUT—C. Hanson and E. Blodgett, millers, Pewaukee, Wis.

BURNED—A. L. Bryant's flour mill at May Mich. No insurance.

A. SHEPHERD & SON, millers at Petrolia, Ont., have sold out.

DIED, Nov. 12, E. M. Jewell, of the Jewell Milling Co., Brooklyn, N. Y.

A LARGE flour warehouse is to be erected at once at Gladstone, Mich.

DIED—Henry Walker of the milling firm of Wulff, Walker & Co., Neenah, Wis.

DIED, Nov. 16, Gustave Sessinghaus, of the Sessinghaus Milling Co., St. Louis, Mo.

M. MUSSELMAN, of the milling firm of Riggs & Musselman, Cynthiana, Ky., died recently.

DISSOLVED—The firm of Harvey & McClure, Acton, Ont., has dissolved, John Harvey continuing.

BURNED—Nov. 17, Patterson & Sissons' mill and elevator at Camillus, N. Y. Loss \$300,000. Insurance \$175,000.

BURNED, Nov. 24, the Union Pulp Mills and the Kelso Pulp Mills at Kaukauna, Wis. The mills will be rebuilt at once.

A COMPANY with a capital of \$15,000 has been organized at Talbott, Tenn., to build a flour mill. The company is called the Talbott Mill Company. Mr. W. W. Sunderland, of Talbott, Tenn., is interested.

BURNED, Nov. 5, the Albert Lea, Minn., Roller Mills, with 25,000 bushels of wheat. Loss \$80,000. Insurance \$30,000. The company will rebuild soon probably a larger mill.

THE big elevator of the St. Anthony Company, on the site of the two burned, is rapidly approaching completion. Soon after December 1 it will be ready for the reception of grain. The structure is 448 feet long and 70 feet wide, holds 2,500,000 bushels and cost about \$175,000.

THE workmen in the Iowa Iron Works at Dubuque, Ia., on the night of Nov. 14 were surprised by having a bomb thrown into the shop where they were working. Fortunately no one was injured. The flooring and parts of the building were set on fire which was quickly extinguished.

N. M. LITTLEJOHN has disposed of his interest in the Saratoga Mill property at Waukesha, Wis., to C. H. Chase for \$20,000. The purchaser was long a prominent miller at Rochester, N. Y., and came West a year or more ago for his health, which has so far improved as to warrant his reengaging in business.

NEW PUBLICATIONS.

THE leading features of the *Youth's Companion* announcement for 1883, just published, are its six illustrated serial stories, by Trowbridge, Stephens and others; its 200 short stories and tales of adventure; its articles by eminent writers, including the Right Hon. W. H. Gladstone, Prof. Tyndall, Gen. Lord Wolsey, Louisa M. Alcott, Gen. Geo. Crook and 100 other popular authors. Every family should take it. By sending your subscription now, with \$1.75, you will receive it free to January 1, 1883, and a full year's subscription from that date.

MESSRS. CASSELL & COMPANY, Limited, New York, announce for immediate publication, "Yule Tide," their Christmas Annual for 1887. The enormous demand for this Annual for last year exceeded by tens of thousands the edition prepared, and the Annual was out of print more than a month before publication. In order to still further increase the great popularity of the Annual, Messrs. Cassell & Company have this year made arrangements for an exceptionally attractive issue of high literary and artistic merit. The Annual for 1887 will contain a magnificent large presentation plate, suitable for framing, entitled "Nelson's First Farewell," after the celebrated painting by George Joy, exhibited at the Royal Academy, painted in the highest style of chromo-lithography in fourteen colors. A complete story by R. L. Stevenson, author of "Treasure Island," &c., entitled "The Misadventures of John Nicholson." Two beautiful colored pictures by Yeend King and Mary L. Gow, each printed in ten colors. Two handsome tinted plates by Hal Ludlow and C. T. Garland. Christmas entertainment for young and old, consisting of charades, puzzles, etc., etc. The price will remain as heretofore, 50 cents per copy. The International News Company, New York, have secured the entire American edition of "Yule Tide."

SILO VS. GRIST MILL.—John Gould says in the *Rural New Yorker*: "The silo presents this problem for the farmers to solve, a saving of hard work of husking and grinding the corn, costing fully one-fourth of the grain value of the crop. When all this labor and expense have been incurred, we do what? Put the meal made from the corn back upon the stalks from which it has been separated; and has any gain been made? Every one whom I have seen who has tried this plan of putting even the field corn into the silo, has fully indorsed the idea that the grain thus fed is increased in feeding value over the dry meal system, quite as much as good silage is better than dry corn fodder. I am getting my belief confirmed almost daily that the silage of the future will be a compromise between field corn and fodder corn—that we will drill in about eight or ten quarts of our best varieties of northern corn per acre, instead of the southern white corn, and will put it into the silos unhusked, not 'snapping' the ears."

NONSENSE.

WANTED TO KNOW WHAT THEY DIED OF.—A Wayne county farmer, who had a little time to spare during the drouth, went at it and created seven artificial mounds to resemble graves, in a field close to the road. Sign boards were put up and labeled: "Tramp No. 1," "Tramp No. 2," and so on through, and when the work was finished the granger went up to the house with a grin on his face and said to his wife, "That 'ere dodge will beat all the laws in Michigan to keep tramps away."

Breakfast was not yet over next morning when there was a knock on the kitchen door, and the farmer opened it to find five gaunt tramps standing in a half circle.

"You here!" he yelled, as soon as he could credit his senses. "Didn't you see those graves down by the road?"

"We did, sir," answered the eldest tramp for all. "That's just why we stopped. We want to know if they come to their death by over-eating."—*Detroit Free Press*.

"WHAT's this gathering of boys in the shed this afternoon, James?" inquired his mother. "Well, you see, ma," replied Tim Tuffboy, "we are going to form a 'walnut trust,' on the plan of the rubber trust, you see." "I don't

quite see." "Well, this is the way: The boys all agree to get as many walnuts as ever they can an' pool in together. I'm interested, 'cause I'm goin' to store the pool."

WHY SHE BROUGHT HER THERE.—"Annabella," said a matron to the naughty little girl whose nurse brought her out on the hotel piazza to receive correction, "aren't you ashamed? What do you suppose I brought you here for?" "Don't know," she answered sulkily. "Don't know?" "No, I don't! You said you must marry off sister Mary this summer, but you didn't say a thing to me." Sister Mary's admirers grinned at mamma's discomfiture; but down they went before Annabella's parting shot, "If you did mean to marry me off, you'd better bring in some other men. I wouldn't marry one of that crowd."—*Boston Transcript*.

REPORTER—Are you going to work to-day, Pat? Pat—Sure, I dunno. Me ould woman says she'll break me head if I don't, and the union men will break me head if I do. Sure, these are hard times for decent men. I think I'll take me chances wid the ould woman.

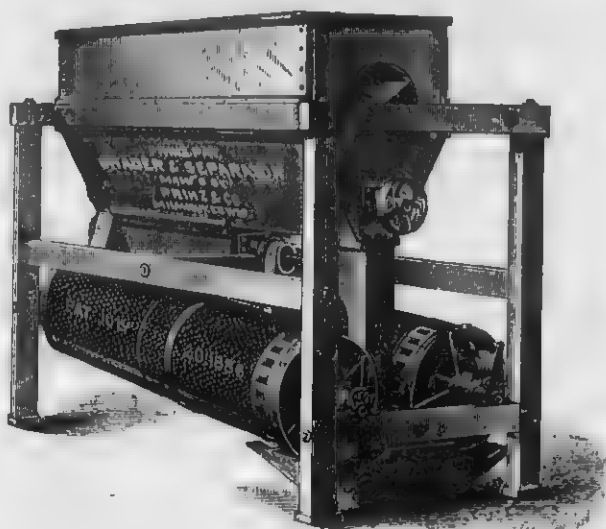
AS GOOD AS GOLD.—"Why do you wear that nickel on your watch chain?" asked a city hall attache of a milkman who was after a board of health permit to peddle cow juice.

"I wear it as a reminder to get even with one of my customers," was the answer. "Over a year ago I took that nickel, which was then beautifully gold-plated, as a \$5 gold piece in payment of a bill. As soon as I detected the fraud I took it back to the woman who passed it on me, but she refused to make it good. So I attached it to my watch-chain and kept on supplying her with milk as though nothing had happened. But now every day I make her quart one-fourth water, and once a week I credit her with one-fourth the amount of her milk bill in a book which I keep for that purpose. When the sum total standing to her credit is \$4.95 she shall have pure milk once more, and not until then. She knows the milk is watered, but whenever she shows an inclination to complain I handle the nickel and say that my milk is as 'pure a gold.' That settles it."

Attention!

CUSTOM and EXCHANGE MILLERS.

We have made arrangements with Potter & Huntington, whereby we can furnish one of their EXCHANGE TABLES and UNITED STATES MILLER for one year, for \$1.50; the price of the Exchange Table alone is \$1.00. This is probably the best Table ever prepared for Millers doing an Exchange or Custom Business. The range is from 25 to 36 lbs. of flour to each 60 lbs. of wheat, and corresponding amount of bran and middlings. (Toll and waste in milling deducted.) There are twelve Tables each of a different grade of wheat, and each Table a different amount of flour and feed and can be used for any amount of wheat, from two lbs. up to any number of bushels. There is no guess work about it, but all from actual experience. By it the Miller is always sure of his allowance of Toll. Hundreds of them are being sent to all parts of the United States and Canada. Send us One Dollar and Fifty Cents and we will send the Table and credit you for one year's subscription to the UNITED STATES MILLER. Address, UNITED STATES MILLER, 124 Grand Avenue, Milwaukee, Wis.



PRINZ'S PATENT

Improved :: Cockle :: Machine

THE VICTOR.

Slow Motion. Little Power.

NEW PATENT INDENTATION.

NO MORE ZINC, BUT IRON AND STEEL REELS.

Lasting Many Times as Long.

Unequaled in Capacity & Simplicity.

One Reel will Handle 16 to 20 Bushels per Hour.

"CENTENNIAL MILLS," EVANSVILLE, IND., June 14, 1887.

FAUSTIN PRINZ & CO., MILWAUKEE, WIS.

GENTLEMEN:—Inclosed please find check in payment for Cockle Machine sent us May 26, 1887. The Machine does its duty.

Yours truly,

J. W. LAUBSCHER & BRO.

Office of "PHOENIX FLOURING MILLS," WAUKESHA, WIS.

F. PRINZ, Esq.:

DEAR SIR:—Yours of the 16th inst. at hand. In reply to inquiries as to how we like your combined Separator and Cockle Machine, which we have now had running nearly a year, I can only say it is the "boss." It displaced a well-known combined machine, and although yours was only guaranteed to do as much work as the one it displaced, I am glad to say it does *three times as much*, and does it in first class style. The old machine blew almost one-third of the scorings into the dust-room, while from yours we cannot find a kernel. The Out Separator is as perfect as I have seen; the cockle it removes without wasting whole kernels of wheat; the suction is in perfect control of the miller; and last, though not least, it uses only half as much power as the

For particulars, prices, etc., address

FAUSTIN PRINZ & CO., 659 East Water Street, MILWAUKEE, WIS.

machine it displaced. You are at liberty to use this recommendation, and if any brother millers wish to see the machine in operation, we shall be pleased to show them. Wishing you all possible success, I remain,
Yours respectfully, CHARLES G. DEISSNER.

Office of GALESBURG ROLLER MILLS.

GALESBURG, MICH., Nov. 17, 1887

FAUSTIN PRINZ & CO.

650, 661 & 663 East Water Street, Milwaukee, Wis.

DEAR SIR:—The Cockle Machine arrived in good condition. I could not procure a millwright, but the connections of your machine are so complete, I went to it myself and put it in and had it running in less than four hours. I have no hesitation in saying that your Cockle Machine is the best I ever handled, being entirely under control of the miller; it does all you claimed and more; it not only removes all the cockle, but scours the wheat and removes the dust to my utmost satisfaction. I consider it a mile for space and a monster for the work it accomplishes. I displaced a rolling screen for your machine and assure you it is a profitable change.

Yours respectfully,

M. W. MORTON.

SCRIBNER'S
MAGAZINE

PUBLISHED MONTHLY
WITH ILLUSTRATIONS

**AN IMPORTANT
CLUB OFFER**

**SCRIBNER'S
MAGAZINE**

Gives its readers literature of lasting interest and value. It is fully and beautifully illustrated and has already gained a more than national circulation exceeding 125,000 copies monthly.

PRICE 25 CENTS A NUMBER. \$3.00 A YEAR.

SPECIAL ARRANGEMENTS with Messrs. Charles Scribner's Sons the Publishers enable us to offer SCRIBNER'S MAGAZINE with the

UNITED STATES MILLER,

At the low combination rate \$3.40 for both. Send your order now. Subscriptions may begin at any time.

E. HARRISON CAWKER,

Publisher UNITED STATES MILLER, Milwaukee, Wis.

Private Line Telephones!



These new instruments (see out) are emphatically superior to all others for all lines within a mile.

They embody all the latest improvements, work splendidly in all kinds of weather, and are great favorites with business men.

PRICE PER SET, \$7.50 Send for

illustrated circular and testimonials. Address,

EDWARD E. HARBERT & CO.,

Dealers in Telephone and Electric Supplies of every description.

159 La Salle Street, CHICAGO.

FOR SALE—MILL.

For Sale Cheap—A great bargain. The Rough and Ready Flouring Mill, water power, consisting of the dam across Rock river, one dwelling house, barn and three acres of land located in Watertown, Wis. Said water power is considered one of the best in the state, and is well adapted for flour or woolen mill or any other manufacturing establishment. Also for sale cheap, two iron flouring mill water wheels, will be sold separate or together with said premises. For further information inquire of CHARLES HAHN, or Bank of Watertown, Watertown, Wis.

FOR SALE.

One Silver Creek Smelter No. 0, and a first break machine, both about as good as new. A bargain. Address G. C. GESELL, North Freedom, Sauk County, Wis.

SUPERLATIVE PURIFIER!

BEST IN THE WORLD,

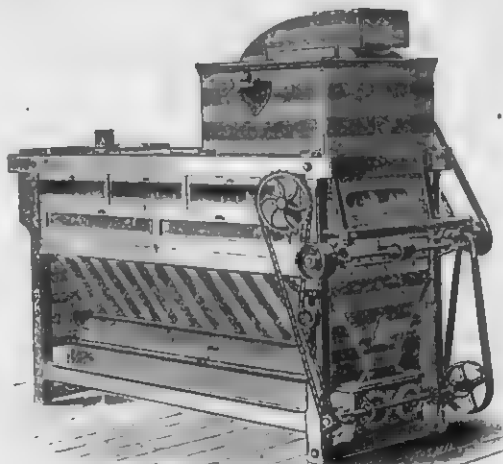
Without a Doubt!

SIMPLICITY and
PERFECTION
COMBINED.

LOW PRICES

ADDRESS.

SUPERLATIVE PURIFIER MANUFACTURING CO., MILWAUKEE, WIS.



TO EVERY **PUMP**

MAKER!
OWNER!
RUNNER!
AGENT!

If there is any practical question concerning any application or any adjustment of any kind of a pump which is not answered in Mr. Robert Grimshaw's **PUMP CATECHISM**,* we would like to have it for answer in the next edition or volume.

The Author will answer any such question in our columns, if addressed in our care, by any regular mail subscriber. "Catch" questions invited, if they have a practical bearing.

U. S. MILLER, MILWAUKEE, WIS.

*Tells for instance, how to put entirely together, set up, adjust, and run all the leading pumps in the market. This information can be had in no other shape or place. Price of the book, post-paid, only \$1.00 and worth \$5.00. Agencies and Clubs wanted everywhere; also for same author's **STEAM-ENGINE CATECHISM**, in two volumes, each complete in itself, and uniform in size, style, and price with the "Pump Catechism."

ATTENTION, MILLWRIGHTS!

A BOOK YOU ALL WANT.

Leffel's Construction of Mill Dams

AND

BOOKWALTER'S MILLWRIGHT  MECHANIC.

— A STANDARD WORK. —

This practical work of 288 pages gives with full illustrations and complete detail how to build or repair all kinds of mill dams.

Pains have been taken to thoroughly illustrate dam construction and rudimentary hydraulics. It contains fine cuts of all the well known dams now in use, with a complete description as to their mode of construction. Mill owners will find this a valuable work of reference. Beside complete directions for building and repairing all kinds of dams, it contains much other valuable information regarding Hydraulics, in all its branches.

No Engineer can afford to be without this handy pocket assistant

— PRICE 50 CENTS —

Or will be sent with a copy of the UNITED STATES MILLER for one year, postpaid, for \$1.00
Address, E. HARRISON CRAWKER, 124 Grand Ave., MILWAUKEE, WIS.

MILL FOR SALE.

For Sale: One-half interest in a first-class 125-barrel Roller Mill. Has the latest improvements and doing a class of work that cannot be excelled in the State. Mill is situated in Southern Illinois, on Wabash Railroad, and in a good wheat country. Party desiring to sell his interest is obliged to go to Europe. The complete mill will be sold if desired. Address for full particulars, H. P., care Garden City Mill Furnishing Co., Chicago, Ill.

FOR SALE.

Two 30-inch Allis & Co.'s

IRON FRAME BURR STONE FEED MILLS

ALSO ONE 24-INCH

Allis Iron Frame Burr Stone Feed Mill.

Address H. P. YALE & CO., Milwaukee, Wis.

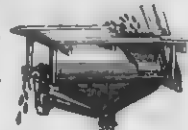
"TRIUMPH" CORN SHELLER

CAPACITY
3000 BUSHELS PER DAY.
Shells wet or dry corn.
CHEAPEST AND BEST SHELLER.

PAIGE MANUF'G CO.,

No. 12 Fourth St., Painesville,

[Please mention this paper when you write to us.]



THE CHICAGO AND

NORTH-WESTERN RAILWAY.

Penetrates the Centres of Population in
ILLINOIS, IOWA,

WISCONSIN,

MICHIGAN,

MINNESOTA,

DAKOTA,

NEBRASKA AND WYOMING.

Its TRAIN SERVICE is carefully arranged to meet requirements of local travel, as well as to furnish the most attractive routes for through travel between important

TRADE CENTRES.

Its EQUIPMENT of Day and Parlor Cars, Dining and Palace Sleeping Cars is without rival.

Its ROAD-BED is perfection, of stone-ballasted Steel.

The North-Western is the favorite route for the Commercial Traveler, the Tourist and the Seekers after New Homes in the Golden Northwest.

Detailed information cheerfully furnished by

JNO. S. GEORGE,

Commercial Agent, Milwaukee, Wis.

MARVIN HUGHITT,

H. C. WICKER,

Vice-Pres't and Gen'l Manager.

Traffic Manager.

E. P. WILSON,

Gen'l Passenger Agent.

CATARRH

positively cured by the great German Remedy. Sample package and book for 4 cents in stamps. E. H. Medical Co., East Hampton, Conn.

PASSENGER AND FREIGHT

ELEVATORS

L. S. CRAVES & SON,

Rochester, New York.

LORD & THOMAS, NEWSPAPER

Advertising, 45 to 49 Randolph St., Chicago, keep this paper on file and are authorized to make contracts with

ADVERTISERS.

Detroit, Grand Haven & Milwaukee

RAILWAY.

Steamer City of Milwaukee leaves daily (Sunday included) at 11:45 A. M., connecting at Grand Haven at 5:30 P. M., with Fast Limited Express for the East. Ticket Offices, 99 Wisconsin Street and at Dock, foot of West Water Street.

PRIVATE Telegraphic Cipher

Compiled expressly for the use of

Millers, Flour and Grain Brokers,

For Private, Telegraphic Correspondence, either
for land or cable lines.

This CODE has been approved and is used by the best firms in America and Europe. It contains Flour Tables, Bran Tables, Middlings Tables, Flour Grades and Brands, Time of Shipment, Dates, Names of Places, American Currency, Sterling Quotations, Table on Limits, etc., Drawing, Credits, etc., and Shipments on Joint Account, Miscellaneous, Market Upwards, Market Downwards, Insurance, Shipping and Freight, Shipping by Regular Lines of Steamers, Finance, Bankers' Names, Standing of Firms, Telegraphing, Advances, Commission, Stocks and Crops, Weather, Samples and Quality, Equivalent of Sacks in Barrel Quantities, Commission Tables, Interest Tables, Equivalent Flour Prices in Currency, Sterling, Francs, Guilders, and Marks, Comparative Tables, Sack and Barrel Flour, Ocean Freight Rates (Comparative Table), Sailings from Seaboard (Table), Key to Sailings from Seaboard Table, Foreign Weights and Measures, etc.

We respectfully refer to the following well-known firms: S. H. Seamans (Empire Mills), Sec'y of the Millers' National Association; E. Sanderson & Co. (Phoenix Mills), Milwaukee, Wis.; Daisy Roller Mills, Milwaukee, Wis.; Nunnemacher & Co. (Star Mills), Milwaukee, Wis.; Roots & Co. (Millers), Cincinnati, O.; C. H. Seybt, (Miller), Highland, Ill.; Kosmack & Co., (Flour Brokers), Glasgow, Scotland; J. F. Imbs & Co. (Millers), St. Louis, Mo.; E. Schraudenbach, Okauchee Roller Mills, Wis.; Winona Mill Co., Winona, Minn.; Herriok, Kirk & Co., New York; Acme Milling Co., Indianapolis, Ind.; W. H. Jones, New Brighton, Eng.; Chas. Kreutziger, Heidelberg; Wm. Paddock & Co., Terre Haute, Ind.; Mandom Roller Mill Co.; L. B. Finch's Sons, New York; Jupiter Mills, Milwaukee; Morse & Sammis, Minneapolis, Minn.; Felst, Krauss & Co., Milwaukee; American Starch Co., Columbus, Ind.; Rudolph & Herne, Liverpool, Eng.; Cleveland Milling Co., Cleveland, O.; Zinkelsen B. & Co.; Abdon Milling Co., Indianapolis; Norton Milling Co., Chicago; Norris & Carruthers, Montreal; Nelson Milling Co., Evansville; Valier & Spies Milling Co., Marine, Ia.; J. S. Hillyer; Gilchrist & Bros., Glasgow, Scotland; David Wright, Chicago; Crain & Baird, Montreal; H. D. Porteous & Co., Liverpool, Eng.; Aultman & Taylor Co.; John H. Peacock, Minneapolis, Minn.; Kerkhardt & Swan, Chicago; E. H. Seybt, Highland; Abdon Milling Co., Mich.; F. W. Stook, Hillsdale, Mich.; A. W. Howard, Minneapolis, Minn.; C. Hoffman & Son, Enterprise, Ka.; Reiff-Huber Co., Chicago; Spink Bros., Toronto, Can.; Mr. Le Duc, City; Chas. Tiedeman, O'Fallon, Ill.; Hurins, Sons & Co., Cincinnati, O.; G. Montague & Co., Chicago; Phoenix Mill Co., Davenport, Ia.; Blanton, Watson & Co., Indianapolis, Ind.; Porter Milling Co., Winona; T. & A. B. Snider, German Mills, Ont.; Jenks & Mering; Richardson & Evans; Sidle, Fletcher & Co.; Comstock & Co.; I. T. Bronson; Manogold & Son; Farquhar Bros.; Central Milling Co.; Watson & Farr; Globe Milling Co.; Geo. Teleson & Co.; Hurd; Herriok, Kirk & Co.; N. W. Miller; Wright & Hardie; Jolleson Com Co., Atlanta; Yaeger Flour Mill Co.; Thos. Todd & Son; Ripon Roller Mills; Schoellkopf & Mathew; W. Throw & Co.; and many others.

Name of firm ordering copies printed on title page with cable address, etc., free of charge, making it to all intents and purposes your own Private Cable Code. State number of copies desired when writing; also style of binding preferred.

Address:

The Riverside Printing Co.,

124 Grand Avenue,

MILWAUKEE, WISCONSIN.

THE NEW YORK WORLD

Had a Total Circulation During 1886 of

70,126,041 Copies.

Present Circulation over Six Million Copies a Month.

Double That of Any Other Morning Newspaper in America.

The World's Weekly Edition

IS WITHOUT A RIVAL AS A NEWSPAPER AND AS A
CHAMPION OF THE PEOPLE'S RIGHTS.

THREE EXTRAORDINARY GIFTS TO ITS SUBSCRIBERS.

HISTORY OF THE U. S. HISTORY OF ENGLAND. EVERYBODY'S GUIDE.

Bound in Leatherette Tree Calf.

Regular Price \$2.00.

This dainty book of 32 pages is indispensable to every one as a work of quick and convenient reference. It is upon an entirely novel and original plan, which makes it indispensable to every person, no matter how many other histories he may have.

The arrangement is chronologically, by year, from 483 to 1887. Every event is narrated in the order of its date. These are not confined, as in other works, to political matters, but embrace every branch of human action. It describes: under its proper date all important patents; all discoveries in science and the useful arts; fires, floods, hailstorms, tornadoes, cyclones, epidemics, accidents and disasters on sea and land; labor troubles, strikes and lockouts; and hundreds of other matters never mentioned by historians. Besides being a history in the ordinary sense, it is a condensed newspaper file for four hundred years. Over 100,000 copies were presented to subscribers during 1886, and every one who received a copy was charmed and delighted.

Bound in Leatherette Tree Calf.

Regular Price \$2.00.

This, the second of THE WORLD'S History Series, is uniform in style and arrangement with its History of the United States. As a storehouse of facts it is without a rival. Every history of England has been carefully searched for data, and many important corrections have been made in the commonly received chronology. Like its companion volume, it is much more than an ordinary history, embracing every branch of human action, and its facts are gathered from thousands of sources not touched by any historian. Attention has been particularly directed to the Victorian era, and the dates of every important event of her reign are given with a minuteness of detail that renders it invaluable to every student of our own times. As a work of convenient reference for the editor, teacher, pupil and general newspaper reader, nothing like it has ever been published, and it will take the place in every library not only of the hundreds of books in which is scattered the information here gathered together, but of files of newspapers for the past century. The History of England is a little larger than the History of the United States.

Bound in Leatherette Tree Calf.

Regular Price \$2.00.

This is uniform in style and binding with the histories, but a much larger book than either, containing 410 closely printed pages of fine type. It is a condensation, by the author, of Moore's "Universal Assaunt," containing everything making that work so popular, and omitting only such of the business terms and illustrations as added to the bulk without increasing its usefulness. The "Universal Assaunt" originally sold for \$5, and has become a most necessary in every home hold as a dictionary or a clock. The value of the work lies in the fact that the information is of the kind needed in ordinary daily life, yet cannot be obtained without reference to rare and costly books, and is not found in encyclopedias. It tells the housewife how to make fresh extracts, the husband how to break well or mend riding horses. It reveals the secrets of the dyer and hatcher, of the grocer and confectioner, and of all special trades. A table of contents would fill six columns of THE WORLD. The binding is leatherette tree calf of a slightly different design, both in the "tree" and the gilt, from the histories.

Single Copies of These Books Cannot be Purchased for Less Than \$2.00 Each.

On Receipt of \$2.00 in cash, or 1 or 2 cent postage stamps, Money Order, Express Money Order or Registered Letter, we will send the "United States Miller" from November, 1887, to December, 1888, and one copy of "The N. Y. Weekly World" for one year and any one of the three books described above which you may select and a "Handy Atlas of the world," containing 138 Colored Maps, Diagrams, Tables, etc., Post-paid to any address in the United States or Canada. Rush in your orders. Address,

E. HARRISON CAWKER,

MILWAUKEE, WIS.

(See other side of this page.)

COLUMBUS

BUGGY & COMPANY,

COLUMBUS, OHIO,

Manufacturers of FIRST-CLASS -

Buggies, Surreys

PHAETONS,

Park Wagons, Light Carriages.

Our work is fully Guaranteed and absolutely reliable.

BEST FOR LIVERY SERVICE!
FOR FAMILY SERVICE!
For PLEASURE DRIVING

POINTS OF SUPERIORITY:

Superior Material and Workmanship, Fine in Finish, Easy in Riding Qualities, Light in Draft,

Unsurpassed in Durability,

Cheapest for Quality of Goods in the World.

THE CENTURY MAGAZINE.

WITH the November, 1887, issue THE CENTURY commences its thirty-fifth volume with a regular circulation of almost 250,000. The War Papers and the Life of Lincoln increased its monthly edition by 100,000. The latter history having recounted the events of Lincoln's early years, and given the necessary survey of the political condition of the country, reaches a new period, with which his secretaries were most intimately acquainted. Under the caption

Lincoln in the War,

the writers now enter on the more important part of their narrative, viz., the early years of the War and President Lincoln's part therein.

Supplementary War Papers.

Following the "battle series" by distinguished generals, will describe interesting features of army life, tunneling from Libby Prison, narratives of personal adventures, etc. Gen. Sherman will write on "The Grand Strategy of the War."

Kennan on Siberia.

Except the Life of Lincoln and the War Articles, no more important series has ever been undertaken by THE CENTURY than this of Mr. Kennan's. With the previous preparation of five years' travel and study in Russia and Siberia, the author undertook a journey of 15,000 miles for the special investigation here required. An introduction from the Russian Minister of the Interior admitted him to the principal mines and prisons, where he became acquainted with some three hundred State exiles—Liberals, Nihilists, and others,—and the series will be a startling as well as accurate revelation of the exile system. The many illustrations by the artist and photographer, Mr. George A. Frost, who accompanied the author, will add greatly to the value of the articles.

A Novel by Eggleston

with illustrations will run through the year. Shorter novels will follow by Cable and Stockett. Shorter fiction will appear every month.

Miscellaneous Features

will comprise several illustrated articles on Ireland by Charles D. Kay; papers touching the field of the Sunday-School Lessons, illustrated by E. L. Wilson; wild Western life, by Theodore Roosevelt; the English Cathedral, by Mrs. Van Rensselaer, with illustrations by Pennell; Dr. Buckley's valuable papers on Dreams, Spiritualism, and Clairvoyance; essays on criticism, art, travel, biography, poems; cartoons; etc.

By a special offer the numbers for the past year (containing the Lincoln history) may be secured with the year's subscription from November, 1887, twenty-four issues in all, for \$6.00, or, with the "last year's numbers handsomely bound, \$7.50.

Published by THE CENTURY Co., 33 East 17th Street, New York.

ST. NICHOLAS.

For Young Folks.

SINCE its first issue, in 1873, this magazine has maintained, with undoubted recognition, the position it took at the beginning,—that of being the most excellent juvenile periodical ever printed. The best known names in literature were on its list of contributors from the start,—Bryant, Longfellow, Thomas Hughes, George MacDonald, Bret Harte, Bayard Taylor, Frances Hodgson Burnett, James T. Fields, John G. Whittier: indeed the list is so long that it would be easier to tell the few authors of note who have not contributed to "the world's child magazine."

The Editor, Mary Mapes Dodge, author of "Hans Brinker; or, The Silver Skates," and other popular books for young folks,—and for grown-up folks,—too, has a remarkable faculty for knowing and entertaining children. Under her skilful leadership, ST. NICHOLAS brings to the thousands of homes on both sides of the water knowledge and delight.

St. Nicholas in England.

It is not alone in America that ST. NICHOLAS has made its great success. The London "Times" says: "It is above anything we produce in the same line." The "Scotsman" says: "There is no magazine that can successfully compete with it."

The Coming Year of St. Nicholas.

The fifteen-h year begins with the number for November, 1887, and the publishers can announce: Serial and Short Stories by Mrs. Frances Hodgson Burnett, Frank R. Stockton, H. H. Boyesen, Joel Chandler Harris, J. T. Trowbridge, Colonel Richard M. Johnston, Louisa M. Alcott, Professor Alfred Church, William H. Rideing, Washington Gladden, Harriet Prescott Spofford, Amelia E. Barr, Frances Courtenay Baylor, Harriet Upton, and many others. Edmund Alton will write a series of papers on the "Routine of the Republic"—how the President works at the White House, and how the affairs of the Treasury, the State and War Departments, etc., are conducted; Joseph O'Brien, a well known Australian journalist, will describe "The Great Island Continent"; Elizabeth Robins Pennell will tell of "London Christmas Pantomime" (Alice in Wonderland, etc.); John Burroughs will write "Meadow and Woodland Talks with Young Folks, etc., etc." Mrs. Burnett's short serial will be, the editor says, a worthy successor to her famous "Little Lord Fauntleroy," which appeared in ST. NICHOLAS.

Why not try ST. NICHOLAS this year for the young people in the house? Begin with the November number. Send us \$3.00, or subscribe through booksellers and newsdealers.

THE CENTURY Co., 33 East 17th Street, New York.

THE BEST Practical Art Magazine.

A Superb Colored Plate with every Number!

15 MONTHS FOR \$4.00!!

Regular Price \$5.00.

Send this advertisement and \$4.00 (subscription price for 1888) DIRECT TO THE PUBLISHER, BEFORE JANUARY 1st, and you will receive

THE ART AMATEUR

From October, 1887, to October, 1888.

15 Beautiful Colored Plates

Fac-Similes of Portrait, Fruit, Flower, Marine and Landscape Studies, equally suitable for copying or for framing.

140 Pages of Useful Designs

In black and white, working size, admirably adapted for Oil and Water-Color Painting, Tapestry Painting, China Painting, Church and Home Embroidery, Wood Carving, Brass Hammering, and other Art Work.

300 Pages of Practical Text

Richly illustrated, and crowded with interesting and valuable articles, with abundant hints for HOME DECORATION.

NOW is the time to send, together with this card, Four Dollars for 1888, and receive also

3 MONTHS FREE!

Including three particularly fine colored plates, namely: A magnificent study of "GRAPES," by A. J. H. Way; a charming "LANDSCAPE," with windmill and figures by W. H. Hilliard, and a richly colored study of "PANSIES," by M. Lamb. Address,

MONTAGUE MARKS,

28, Union Sq., New York.

P.S.—Five different Specimen Numbers, with Five Beautiful Colored Plates will be sent on receipt of this paragraph and One Dollar (regular price, \$1.75). Address as above.

GODEY'S LADY'S BOOK FOR 1888.

Sample Copy Fifteen Cents.

\$2 a Year ALWAYS IN ADVANCE.

A handsome Engraving to every Subscriber.

In Club with this paper, GODEY'S and the UNITED STATES MILLER, price \$2.50, which should be sent to the office of the United States Miller, Milwaukee, Wis.



TO AND FROM THE NORTHWEST.

TICKET OFFICES:

CHICAGO—205 Clark St.
Depot, Cor. Polk St. and 5th Avenue.
Palmer House.
Grand Pacific Hotel.
Tremont House.
MILWAUKEE—395 Broadway.
New Passenger Station.
ST. PAUL—173 East Third St.
Union Depot.
MINNEAPOLIS—19 Nicollet House Block.
Union Depot.



Owens and operates nearly 5,600 miles of thoroughly equipped road in Illinois, Wisconsin, Iowa, Missouri, Minnesota and Dakota.

It is the Best Direct Route between all principal points in the Northwest, Southwest and Far West.

For maps, time tables, rates of passage and freight, etc., apply to the nearest station agent of the CHICAGO, MILWAUKEE & ST. PAUL RAILWAY, or to any Railroad Agent anywhere in the World.

R. MIER, General Manager.
A. V. H. CARPENTER, Gen'l Pass. and Tkt. Agt.
J. F. TUCKER, Asst. Gen'l Manager.
OEO. H. HEAFFORD, Asst. Gen'l Pass. and Tkt. Agt.
MILWAUKEE, WISCONSIN.

For information in reference to Lands and Towns owned by the CHICAGO, MILWAUKEE & ST. PAUL RAILWAY COMPANY, write to H. G. HAUGAN, Land Commissioner, Milwaukee, Wisconsin.

A PECULIAR ACCIDENT.—A bad boy in this city threw a stone into the drawing-room of a dwelling on Michigan avenue one evening this week. It hit his sister on the lips and broke two front teeth belonging to a young man who was visiting her. The incident seems to convey its own warning.—Chicago Tribune.

BELLAS, PATTON & CO., Commission Merchants

3 INSURANCE EXCHANGE BLOCK.

218 La Salle St., CHICAGO.

GRAIN AND PROVISIONS

Bought or sold for shipment, or carried on margins.
Market Reports furnished to correspondents.

N. S. CLARK.

A. C. MARTIN.

CLARK & MARTIN, Commission Merchants

FLOUR, GRAIN,

FEED AND HAY,

No. 51 West Second St, Cincinnati, O.

E. B. OWENS & CO., Provisions and Grain

BALTIMORE, MD.

Sell on Track West and to Arrive.
Fine Storage Cellars for Meat and Lard.
Handle all kinds of Grain.
Liberal Advances on Consignments.

REFER TO Western National Bank, Baltimore; Citizens' National Bank, Baltimore; Wm. Ryan & Sons, Dubuque, Iowa; Whitmore Bros., Quincy, Ill.; Bloomington Pork Packing Co., Bloomington, Ill.

WM GRIFFITHS. JAMES MARSHALL. GEO. E. DODGE.

GRIFFITHS, MARSHALL & CO.

Grain Commission

MINNEAPOLIS AND DULUTH MINN,

Orders for Choice Milling Wheat Given Special Attention.

Preserve your Copies of the

UNITED STATES MILLER

-IN AN-

Ullrich Binder

This binder is suitable for binding your copies of the UNITED STATES MILLER for two or more years, any required number can be taken out without disturbing its contents. Binders made for all Publications, for binding Music, etc.

ITS EQUAL CANNOT BE FOUND.

Sent post paid for \$1.10. Address

UNITED STATES MILLER.

MILWAUKEE, WIS.

SAM'L E. DUNHAM & CO., COMMISSION Provisions and Grain

ROOM 83,

Board of Trade, CHICAGO.

The purchase of grain for shipment to home markets a specialty.

PATTERSON BROS. & CO., Commission Merchants

FOR SALE OF

WHEAT, CORN, OATS, RYE.

DEALERS IN

Seeds, Hominy, Grits, Steam Dried Corn Meal,

44 VINE ST., CINCINNATI.

ORDERS AND CONSIGNMENTS SOLICITED.

ESTABLISHED 1870.

JNO. R. TURRENTINE,

-GENERAL-

Merchandise and Produce Broker,

FLOUR, GRAIN, HAY AND RICE.

Dock Street, WILMINGTON, N. C.
MEMBER OF CHICAGO BOARD OF TRADE.

Roters by permission to A. K. Walker, Esq., cashier First Nat'l Bank, Hall & Pearsall, Adrian & Vollers, Merchants, Wilmington; Robt. Carey & Co., New Orleans, La.; Geo. P. Plant & Co., St. Louis, Mo.; Martin & Bennett, Chicago, Ill.

Solicits Orders for Carolina Rice and Peanuts.

JOSEPH DIXON CRUCIBLE CO.,
Jersey City, N. J.

Manufacturers of



(View of Works.)

Pencils, Graphite Grease, Graphite Perfect Lubricator, Belt Grease, Crucibles, Plumbago Facing, &c.

DIXON'S

GRAPHITED LUBRICATING OIL.

Pure Foliated American Graphite,

SUSPENDED IN OIL,

For Close Fitting Axles and Heavy Machine Bearings.

Bearings will run easier and will not wear out. It will cool on a hot journal after every other oil has failed.

Write for Circular.

JOE. DIXON CRUCIBLE CO.,
JERSEY CITY, N. J.

TAKE THE

Illinois Central RAILROAD

FOR

ST. LOUIS

Pullman Buffet Sleepers

PLUSH FINISH,

Leave Central Depot, Chicago, Daily at

8.30 P. M.

22d Street, 8.40 P. M.; Hyde Park, 8.50 P. M.
Arrive St. Louis 7.00 A. M.

STEEL RAIL, STONE BALLAST

NO CHANGE OF CARS.

Tickets on Sale at City Ticket Office, 121 Randolph Street; Grand Pacific Hotel; Palmer House; Tremont House; Depots; and all principal points in the country

E. T. JEFFERY,
General Manager.A. H. HANSON,
Gen'l Pass. Agent.F. B. BOWES,
Gen'l North. Pass. Agent, 121 Randolph St., Chicago.

Milwaukee & Northern R. R.

SHORT LINE

BETWEEN

CHICAGO, MILWAUKEE,

Menasha, Neenah, Appleton,

Depere, Green Bay, Ft. Howard,

Marinette, Menominee,

IRON MOUNTAIN.

3 EXPRESS TRAINS DAILY
EACH WAY
BETWEEN
Chicago, Milwaukee,
Appleton and Green Bay.2 EXPRESS TRAINS DAILY
EACH WAY
BETWEEN
CHICAGO, MILWAUKEE,
Menominee and Iron Mountain.Elegant Pullman Palace Sleeping Cars
on all Night Trains

CONNECTIONS.

At Milwaukee, in New Passenger Station with C. M. & St. Paul R'y and Wisconsin Central Line.
At Plymouth, with C. & N. W. R'y for Sheboygan, etc.
At Menasha, with W. O. Line.
At Neenah, with W. O. Line.
At Appleton, with M., L. S. & W. R'y and C. & N. W. R'y.
At Forest Junction, with M., L. S. & W. R'y.
At Green Bay and Ft. Howard, with G. B. W. & St. P. R. R. and Stage and Boat for Sturgeon Bay.
At Oconto Junction, with M., L. S. & W. R'y for Oconto.
At Menominee, with C. & N. W. R'y.
At Iron Mountain, with C. & N. W. R'y.C. F. DUTTON,
General Supt.W. B. SHEARDOWN,
Gen'l Ticket Agent.

Mineral Wool Sectional Coverings!

FOR STEAM PIPES AND BOILERS, GAS AND WATER PIPES.

Made in sections three feet long, to fit every size pipe. Also in suitable sheets to fit any Boiler Dome, Drum or Tank. The best non-conductor, absolutely Fire-Proof, will not Char, Crack, Burn or Powder. The cheapest and best. Easily applied or removed by any one. Also, Mineral Wool in bulk, for deafening and packing, constantly on hand. Send for Circulars and Price List.

MANUFACTURED BY THE

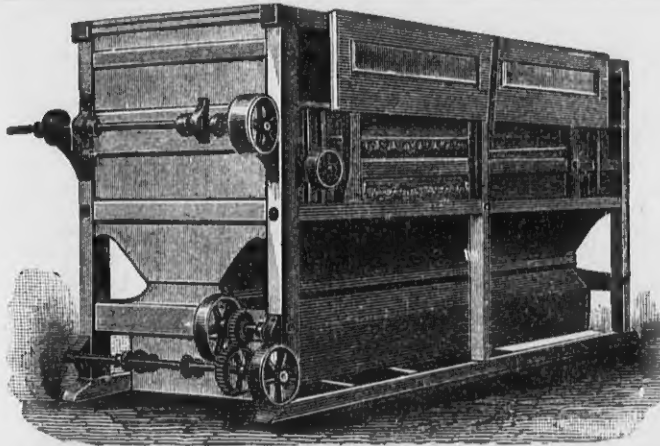
WESTERN MINERAL WOOL CO., CLEVELAND, O.

OFFICES:

9 South Water St., CLEVELAND.

231 Fifth Ave., CHICAGO.

66 Cortlandt St., NEW YORK.



-THE- Advance Shake FLOUR BOLT.

Better than the Centrifugal or Old-Fashioned Bolt in every part of the mill.

No forced bolting in this Machine, but a sliding action of the chop which falls the impurities over instead of driving them through the cloth.

No Machine built can begin to equal the work of the ADVANCE.

This is no clap-trap or hoax, and if any miller is about to build or remodel, it would pay him to go a thousand miles to see this machine and its work.

Be sure and write for particulars and circulars.

PARKER, BLOOD & TOWER, - - LAINGSBURG, MICHIGAN.

- - THE ONLY MANUFACTURERS OF RAWHIDE BELTING IN THE COUNTRY. - -

THE CHICAGO RAWHIDE MFG. CO.,

MANUFACTURERS OF

**Rawhide Belting, Lace Leather, Rope,
LARIATS, FLY NETS,**

Picker Leather, Stock and Farm Whips, Washers, Horse Straps, Hame Strings, Halters and other Rawhide Goods of all kinds.

BY KREUGER'S PATENT.

75 and 77 OHIO ST., Near Market,

Telephone No. 3403.

CHICAGO.

R. R. ROUSE PATENT ELECTRO-PLATED WELL POINT.



1 1/2, \$1.50; 1 3/4, \$2.50; 2, \$3.00; 2 1/2, \$4.00; 3, \$5.00; 4, \$6.50; 6, \$8.50.

My 1 1/2 Point is 24 1/2 inches long and has 20 1 1/2 x 1/2 openings. Then counter-sunk two-thirds of entire surface of screen section.

This is a NEW PATTERN, EXTRA STRONG; will stand rougher use than any in the market. A showing the opening before the wire gauze is soldered on. B after the wire gauze is soldered on. C showing wire gauze and perforated brass soldered on. These points are electro-plated with pure Black Tin inside and outside before receiving the coverings, there being no raw iron to corrode or rust, or cause an unpleasant taste in the water. The electric process by which this is done is patented and exclusively owned and controlled by me for driven Well Points in the United States. Warranted not to strip loose where soldered. Write for discounts and circulars. R. R. ROUSE, Indianapolis, Ind.

A BONUS OF 1500 DOLLARS

Will be donated by the Citizens of

BILLINGS, MO.

to a Responsible Party or Firm who will erect a \$10,000.00 Flouring Mill at the above point. Best location for a mill that can be found and the best wheat country in the west. For further information address

J. W. SANDERS & CO.,

BILLINGS, CHRISTIAN COUNTY, MISSOURI.

GANZ & CO.,

Budapest, Austria-Hungary.

We are the first introducers of the Chilled Iron Rollers for milling purposes, and hold Letters Patent for the United States of America. For full particulars address as above.

[Mention this paper when you write to us.]



After Forty years' experience in the preparation of more than One Hundred Thousand applications for patents in the United States and Foreign countries, the publishers of the Scientific American continue to act as solicitors for patents, caveats, trade-marks, copyrights, etc., for the United States, and to obtain patents in Canada, England, France, Germany, and all other countries. Their experience is unequalled and their facilities are unsurpassed.

Drawings and specifications prepared and filed in the Patent Office on short notice. Terms very reasonable. No charge for examination of models or drawings. Advice by mail free.

Patents obtained through Munn & Co. are noticed in the SCIENTIFIC AMERICAN, which has the largest circulation and is the most influential newspaper of its kind published in the world. The advantages of such a notice every patentee understands.

This large and splendidly illustrated newspaper is published WEEKLY at \$3.00 a year, and is admitted to be the best paper devoted to science, mechanics, inventions, engineering works, and other departments of industrial progress, published in any country. It contains the names of all patentees and title of every invention patented each week. Try it four months for one dollar. Sold by all newsdealers.

If you have an invention to patent write to Munn & Co., publishers of Scientific American, 361 Broadway, New York. Handbook about patents mailed free.

EVERYBODY'S PAINT BOOK

A new work on INDOOR and OUT-DOOR painting which is designed to teach people how to DO THEIR OWN PAINTING and save the expense of a professional painter. The most practical and valuable work of the kind ever issued. Full directions are given for mixing paints for ALL PURPOSES. Tells all about PAPER HANGING, KALSOMINING, STAINING, VARNISHING, POLISHING, as well as how to RENOVATE FURNITURE, so that it will look as good as new. Tells all about HOUSE-CLEANING with paint and kalsomine. Full directions are given for making the beautiful SPATTER-WORK pictures in which the ladies are so much interested. Tells how to paint OUT-BUILDINGS, ROOFS, FARM WAGONS, FARM IMPLEMENTS and CARRIAGES, as well as how to polish a PIANO or ORGAN; how to imitate GROUND GLASS or make paint for BLACKBOARDS; GRADING in oak and black walnut, painting in imitation of EBONY, MAHOGANY and ROSEWOOD; GILDING, BRONZING and SILVERING. Recently printed and beautifully bound. Will SAVE ITS COST in a short time. Send by mail on receipt of price One Dollar.



We will send a copy of the UNITED STATES MILLER for one year, and a copy of "EVERYBODY'S PAINT BOOK," post paid, to any address, for \$1.50. Address E. HARRISON CAWKER, No. 124 Grand Avenue, Milwaukee, Wis.

THE "SALEM"



is the original round cornered Elevator Bucket and its shape is broadly covered by a foundation patent.

All buckets of the same shape, though produced by a different process, trespass upon our rights, and render dealers and users as well as manufacturers liable for damages.

AVOID INFRINGEMENTS.

All legitimate "Salem" Buckets are plainly marked with the word SALEM.



W. J. CLARK & CO., Sole Manufacturers, SALEM, OHIO.

THORNBURGH & GLESSNER, Gen'l Agents, CHICAGO.

✧ MILLERS ✧ MILLERS ✧

Do You Need any Special Machines?

WE NOW MANUFACTURE A FULL LINE.

OUR SEPARATOR.—Is the Equal of any, and Superior to most. Built on Correct Principles, it has met with great favor, and has never failed to give satisfaction.

OUR SMUTTER AND SCOURER.—Here is where we can beat them all, for we have a machine that *will* scour, and demonstrate its value in five minutes after starting up. This machine has been thoroughly tested, and is bound to be the leader in its class. We guarantee that it will do more and better work than any three machines that you can buy for the purpose.

OUR DOUBLE BRUSH FINISHER.—Has been well and favorably known for years. Hundreds are in successful operation. It is a standard machine, and one that will pay for itself.

OUR PURIFIER.—The old GARDEN CITY PERFECTED. This is the machine that you should have where but one or two Purifiers are required. You can purify and grade on one machine (a boon to those millers that want but one). It is the lightest running, does better work, and is easier managed than any other.

OUR FLOUR BOLT AND CENTRIFUGAL.—Both machines built on scientific principles, and warranted to give satisfaction. We have these machines down so fine that we can suit any miller, both as to price and quality of work.

WE ALSO MANUFACTURE

✧ DOUBLE AND SINGLE SCALPERS AND ASPIRATORS ✧

In fact we offer machines well built, built on honor, and we know that while seldom equaled, they are never surpassed. Material used is as good as cash can buy, and only first-class workmen employed in their construction.

MILLERS—Give us a Trial Order. That will suffice, as we then know we will have your trade in the future.

Write for Descriptive Circulars and for such particulars as you desire to know. What information and advice we can give will be cheerfully given.

GARDEN CITY MILL FURNISHING CO.,
CHICAGO, ILL.



The "HOPEWELL" TURBINE Water Wheel

IS THE BEST.

For full particulars address

A. J. HOPEWELL,

EDINBURG, VA.

Improved + Walsh + Double + Turbine



This wheel has a perfect fitting cylinder gate and draft tube combined, and allows no water to escape when closed.

POWER GUARANTEED

equal to any wheel on the market using equal amount of water. Address for particulars,

B. H. & J. SANFORD,

Phoenix Iron Works,

Sheboygan Falls, Wis.

FOR SALE

10,000 Acres of Hardwood and Agricultural Lands near Lake Superior, AT \$3.00 TO \$5.00 PER ACRE. 4,000 acres in the Iron River County, at low rates.

A RARE OPPORTUNITY FOR A GOOD FIND.

IF YOU WISH TO BUY

CITY PROPERTY IN DULUTH,
OR PINE, IRON OR FARM-
ING LANDS,

(ADDRESS)

LUCIEN * J. * BARNES,

Room No. 2, Exchange Building,

DULUTH, MINN.

ASHLAND
M.L.S.&W.RY.
ROUTE

The Milwaukee, Lake Shore & Western Railway has been well named the Fishing and Hunting Line of Wisconsin, passing, as it does, through thousands of acres of but partially explored woods and within easy reaching distance of lakes and streams that have never been fished by white men, all well stocked with the game fish for which Northern Wisconsin waters are noted. The woods abound with game; deer, bear, wolf, mink, beaver, pheasant, and other game are quite plentiful.

THE ONLY LINE

From Milwaukee to the new Iron Mining District in Wisconsin and Michigan—Gogebic, Wakefield, Bessemer, Ironwood and Hurley.

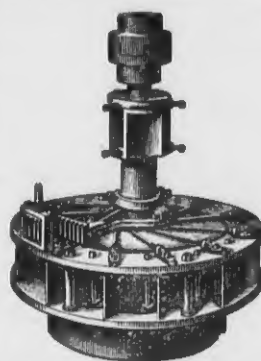
Direct line to ASHLAND and beyond. Sleeping cars between ASHLAND and CHICAGO. The GUIDE BOOK, and other descriptive matter, containing full information, maps and engravings of the country traversed by the line, will be sent on application to the General Passenger Agent.

CHAS. A. COLE, Gen. Agent, 106 Washington St., Chicago.
Chicago Depot, Cor. Wells and Kinzie Sts., (C. & W. R'y.)

F. WHITCOMB,
Gen'l Manager,

CHAS. V. MCKINLAY,
Gen'l Pass. Agent,

MILWAUKEE WIS.



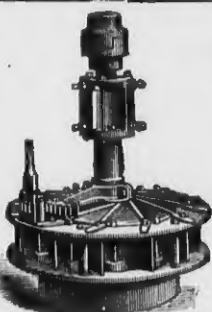
JAMES LEFFEL'S IMPROVED WATER WHEEL,

Fine New Pamphlet for 1887.

The "OLD RELIABLE" with Improvements, making it the Most Perfect Turbine now in use, comprising the Largest and the Smallest Wheels, under both the Highest and Lowest Heads in this country. Our new Pocket Wheel Book sent free. Address,

JAMES LEFFEL & CO., Springfield, Ohio,
and 110 Liberty St., New York City.

[Please mention this paper when you write to us.]



POOLE & HUNT'S Leffel Turbine Water Wheel

Made of best material and in best style of workmanship.

Machine Molded Mill Gearing

From 1 to 20 feet diameter, of any desired face or pitch, molded by our own SPECIAL MACHINERY. Shafting, Pulleys, and Hangers, of the latest and most improved designs.

Mixers and General Outfit for Fertilizer Works.

Shipping Facilities the Best in all Directions.

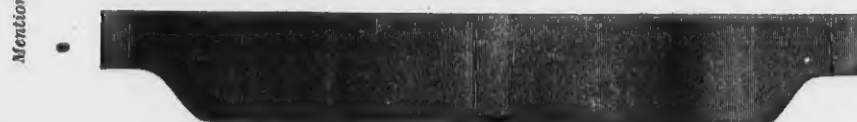
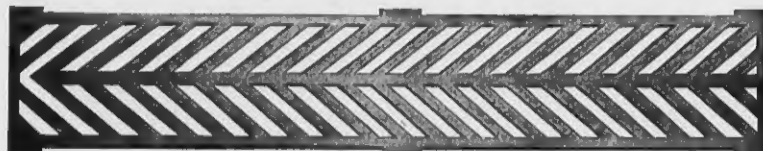
POOLE & HUNT, Baltimore, Md.

N. B.—Special attention given to Heavy Gearing for Pulp and Paper Mills.

[Mention this paper when you write to us.]

Campbell's Patent Grate Bar

PATENTED AUGUST 1st, 1882. No. 261,830.



A LONG FELT WANT SUPPLIED

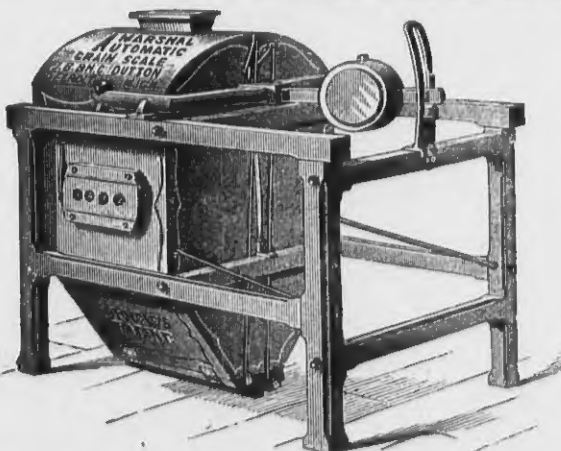
AND THE USERS OF GRATE BARS MADE HAPPY.

FOR PRICES AND INFORMATION ADDRESS,

GARDINER CAMPBELL & SONS, Manufacturers, 242 to 246 Oregon Street, Milwaukee, Wis., U. S. A.

J. B. DUTTON IMPROVED AUTOMATIC

GRAIN, FLOUR AND FEED



SCALE

Weights and Reg'st-rs Absolutely
Correct.

MACHINES SENT ON THIRTY DAYS TRIAL.

Our Automatic Register is the most perfect and simple Register in use. It is especially adapted for use by Flour Packers. It records up to 1,000,000, when it repeats the operation automatically.

Send for Circulars and Prices.

—THE

J. B. Dutton Mfg. Co.

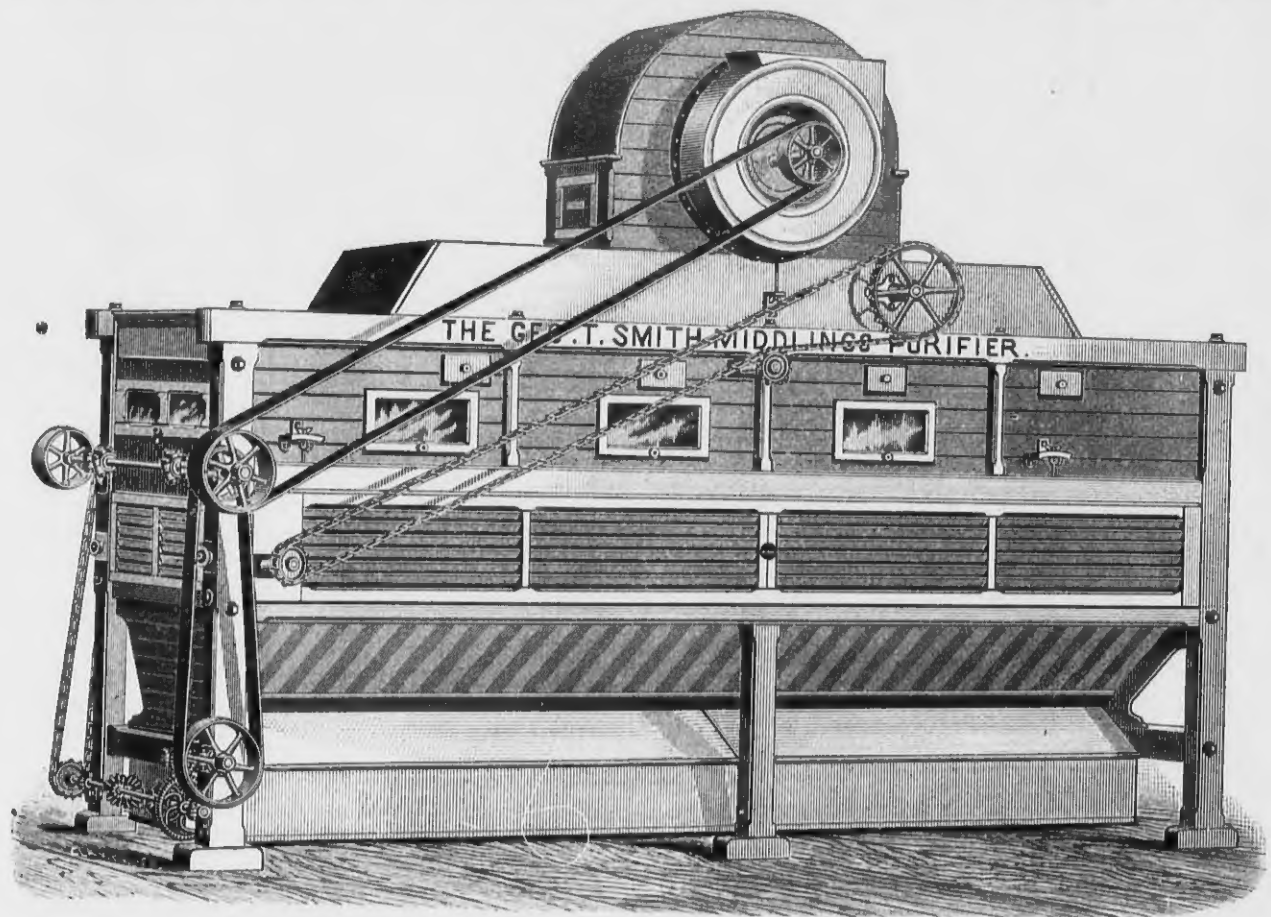
22 and 24 WOODWARD AVENUE,

DETROIT, MICHIGAN, U. S. A.

[Please mention this paper when you write.]

THE UNITED STATES MILLER.

\$80,000 Patent Decision.



The United States Circuit Court, for the Eastern District of Wisconsin, Judges Gresham and Dyer, have rendered a decision in favor of The Geo T. Smith Middlings Purifier Company in the suit of that Company and others against the Milwaukee Dust Collector Manufacturing Company.

The decision awards the Complainants upwards of eighty-thousand dollars damages and enjoins the Milwaukee Company from the further manufacture or sale of the Dust Collectors.

We have the exclusive right of Manufacturing Dust Collectors under upwards of twenty patents (all the patents in question, including the patent of Faustin Prinz).

For further information in regard to our control of the manufacture of Dust Collectors, we refer to our Attorneys in the litigation, Messrs. Flanders & Bottum, of Milwaukee, Wis.

We have improved the Dust Collector and fitted it for attachment to our Purifiers; when sold in connection with Purifiers, no extra charge is made for attachment.

**Geo. T. Smith Middlings Purifier Co ,
JACKSON, MICHIGAN.**